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BULGARIA

ROLE AND FUNCTIONS OF NEW ACADEMY OF SCIENCES

New Presidium Elected

Sofia KOOPERATIVNO SELO in Bulgarian 2 Jun 82 p 1

[Text] The constituent assembly of the Agricultural Academy was held in Sofia on 1 June 1982. It was attended by 400 delegates, including academicians, corresponding members, scientific workers, general directors of trusts, okrug BCP committee secretaries in charge of agricultural affairs, chairmen of OAPS [Okrug Agroindustrial Associations] and APS [Agroindustrial Combines], and others.

Also attending were Vasil Tsanov, CC BCP secretary, Nacho Papazov, chairman of the Committee for Science and Technical Progress, Academician Angel Balevski, BAN [Bulgarian Academy of Sciences] chairman, and Angel Bobokov, head of the Agricultural Department of the CC BCP.

The opening speech at the meeting was delivered by Aleksandur Petkov, chairman of the NAPS [National Agroindustrial Union] Central Council. The speaker pointed out that many problems related to the intensive development of agricultural science have not as yet been resolved most accurately in the course of intensive scientific research for upgrading its effectiveness, adopted by the Ninth BCP Congress, which is being systematically pursued, and in accordance with the resolutions of the 12th BCP Congress, under the conditions of all-round intensification of the entire socioeconomic development.

First among the unresolved problems in the organization of scientific research and engineering and application activities is the insufficient comprehensiveness of scientific research in the individual subsectors in agriculture and the food industry and in the sector as a whole.

"Bearing in mind the current state of agricultural science," Aleksandur Petkov emphasized, "and the great significance of accelerating agricultural intensification, on Comrade Todor Zhivkov's initiative the 12th BCP Congress called for the re-creation of the Agricultural Academy."

Corresponding Member Prof Dr Tseno Khinkovski, deputy chairman of the NAPS Central Council, presented a report on "Improving the Organization of Agricultural Science in Order to Implement the Decisions of the 12th BCP Congress." The speaker discussed in detail the need for the creation of an

Agricultural Academy, its status and structure, the great tasks in scientific research and application, and the organization of scientific services on the basis of the economic approach and its mechanism. The constituent assembly approved the bylaws and the General Assembly of the Agricultural Academy.

Corresponding Member Prof Dr Tseno Khinkovski was elected academy chairman; Senior Scientific Associate First Class Dr Vasil Chichibaba was elected chief scientific secretary; Senior Scientific Associate First Class Todor Pandov was elected deputy chairman in charge of scientific affairs and head of the Scientific Coordination Center for Organization, Economics and Mechanization; Prof Dino Dinev was elected deputy chairman in charge of higher education and head of the Cadre Training Center; Senior Scientific Associate Second Class Emil Nikolov was elected deputy chairman in charge of engineering and application affairs; The following were elected department heads at the Scientific Coordination center: crop growing, Senior Scientific Associate First Class Aleksandur Karaivanov; perennials and vegetables, Senior Scientific Associate First Class Milko Yordanov; animal husbandry, Senior Scientific Associate First Class Dr Angel Stoyanov; veterinary medicine, Prof Dr Trifon Tomov; and food industry, Prof Dr Nikola Nestorov.

The following were elected presidium members: Prof Vuto Gruev, Corresponding Member Dimitur Shabanov, Zhelyu Dobrev, Prof Zakhari Zakhарiev, Corresponding Member Prof Dr Ivan Vasilev, Senior Scientific Associate First Class Dr Ivan Ivanov, Ivan Tonev, Senior Scientific Associate First Class Yordan Ivanov, Academician Kiril Bratanov, Senior Scientific Associate First Class Krustyu Brusarski, Prof Kiro Kostov, Academician Kunyu Stoev, Docent Lyuben Glogov, Senior Scientific Associate Second Class Dr Nikola Belev, Senior Scientific Associate First Class Dr Nikola Tomov, Prof Nadezhda Fetvadzhieva, Nikolay Tsonev, Senior Scientific Associate Second Class Petur Donchev, Academician Pavel Popov, Docent Petko Fedin, Rumen Boyadzhiev, Prof Dr Svetoslav Raychev, Corresponding Member Prof Tosko Vanchev, Academician Khristo Daskalov, Prof Tsvyatko Petkov, Prof Dr Tsanko Stoychev and Senior Scientific Associate First Class Yakim Dimov.

In his concluding speech Dr Vasil Tsanov emphasized that this marks the beginning of a new type of agricultural academy, which will be focused entirely on the needs of agroindustrial production in terms of nature, function and tasks. The academy will be based on new management and scientific administration and services principles, such as the application of the economic approach, the state-public principle, the programmed organization of labor, program-target financing of scientific research and engineering-application activities and others.

In discussing the many problems which the academy will have to resolve, Dr Vasil Tsanov emphasized the following tasks as the most topical:

Raising scientific research to a qualitatively new level within the shortest possible time. The main thing now is to mobilize the entire scientific potential within and outside the academy on an economic basis and to create a unified agrobiological front;

The academy must make radical changes in engineering-application activities. This will require the creation of economic and organizational conditions resulting in the fast application of the peak achievements of scientific and technical progress and leading Bulgarian and worldwide experience;

The training standards of agricultural specialists with higher and secondary school training must be raised by turning the higher educational institutions into comprehensive scientific centers and linking the training and education process with practical requirements more closely;

Scientific and technical cooperation between the Agricultural Academy and other Bulgarian and foreign scientific units must be organized on an entirely new basis. Comprehensive target programs must be formulated within a short time, covering the most important technical directions of scientific and technical progress in the sector, to be implemented with the help of modern scientific means and methods.

A telegram was addressed by the delegates to the BCP Central Committee (KS).

Academy Chairman Interviewed

Sofia KOOPERATIVNO SELO in Bulgarian 2 Jun 82 pp 1-2

[Text] Correspondent Iliya Simeonov met with Corresponding Member Prof Dr Tseno Khinkovski, chairman of the new Agricultural Academy and chairman of the NAPS Central Council and asked him the following question:

[Question] Prof Khinkovski, can you tell us what made the re-establishment of the Agricultural Academy necessary?



[Answer] Let me point out first of all that thanks to the creative application of the party's April agrarian policy, a powerful scientific-cadre potential was developed in our country over the past decades. With the help of the existing wide network of scientific research institutes and stations it can provide the main agricultural and food industry sectors with high-level scientific services. The existing scientific-production trusts and

complexes are a manifestation of the qualitatively new structures in the integration of science with production. A very good beginning has been laid for unifying and coordinating the efforts of the scientific institutes on the basis of the program-target and comprehensive approaches.

At the same time, however, there were many weaknesses in our scientific field in recent years. The level of effectiveness of scientific services was held back. There were particularly serious omissions in terms of the comprehensive nature of developments. The ones focused on basic scientific problems became increasingly limited and insignificant. Clearly, the management of agricultural science was not consistent with the changes which had taken place in agricultural management after the creation of the NAPS.

[Question] What role will the Agricultural Academy play in the further development and strengthening of agriculture and the food industry?

[Answer] The academy is being established as a superior comprehensive organization in charge of the management and development of agricultural science, cadre training and application of scientific and technical progress. Its basic task will be to provide comprehensive scientific services and effective application activities in agroindustrial production. Our obligation will be to direct the efforts of the entire scientific potential in order to enhance its technical-economic, technological and organizational standards. We will thus help to convert agriculture and the food industry into highly developed, profitable and competitive socialist economic sectors able to meet the country's growing needs for food and export goods.

The academy will head the work related to the development of basic and applied problems in the most promising directions of agricultural science with a view to resolving specific agricultural problems promptly and on a high scientific level.

[Question] How will the academy contribute to the even broader practical utilization of scientific and technical progress?

[Answer] In order for the academy to carry out its responsible and comprehensive tasks successfully, it will organize structural units entirely consistent with such tasks -- scientific research, engineering-application, production and cadre training. They will be functionally related and constitute systems of scientific research organizations operating in various directions and headed by scientific coordination centers, applied engineering, organizations and higher educational institutions and service unit systems.

The academy will have a system of engineering-application units (whose structure and nature will be discussed and amended in the course of the work), which will interact closely with the overall production management system in the NAPS. Let me emphasize that our entire activity and system, which is being established and will continue to be developed in the future, will be assessed above all on the basis of our contribution to the level of agricultural production and efficiency. In this sense we consider application a structural component and natural extention of scientific research. We shall try to prove this through practical work.

[Question] How will the new economic approach and its mechanism be applied and manifested in scientific research?

[Answer] In accordance with the new economic mechanism, the scientific research institutes were converted to a system of self-financing for one half of the funds required for their maintenance. Most of the scientific workers showed their understanding of the forced economic nature of the mechanism. Most of the managements of the institutes and stations also found the proper guidelines. They quickly contracted to provide scientific developments against payment by the economic organizations.

Despite certain successes, let us emphasize that the process remains incomplete. Without downplaying the weaknesses in the work of the scientific research system and some of its units, we continue to find weaknesses outside the system as well. They greatly hinder the efforts to intensify the process of utilization of scientific and technical progress.

Many economic managers on all levels, who had become used to receiving free help from the scientific institutes, are finding it hard to reorganize their way of thinking and acting. That is why one of the first and most urgent tasks will be to present the NAPS Central Council with an efficient system and a mechanism for upgrading the interest of the economic organizations in the application process. We are guided in the completion of this task by Comrade Todor Zhivkov's instructions to the effect that the application mechanism must be based on the principles of economic incentive. It must both encourage and force the scientific collectives and the users of scientific and technical results to use the latest achievements of science and leading experience.

[Question] What are the most important problems on which the academy will focus its scientific research in accordance with the decisions of the 12th BCP Congress?

[Answer] One of the most important tasks is to make radical changes in the selection work conducted at scientific research institutes and to make it consistent with the latest achievements in modern biology. That is why in the future, along with classical selection methods, we shall make wide use of new means and methods which will help to intensify the process and to reduce the time needed for the creation of new strains and breeds.

During the last decade, problems related to the technology used in the production of various vegetal products gained particular importance. Practical requirements demand with increasing urgency the development of essentially new technologies. The main task over the next few years will be to develop integral farming systems for the separate ecological zones in the country.

Genetics, selection and breeding are becoming increasingly important parts of the animal husbandry production system. Our science is faced with resolving important problems in the development and upgrading of breeds. Animal husbandry needs not only new technologies for raising various breeds and categories of animals but integral systems for livestock goods output.

Veterinary medicine faces urgent tasks in upgrading the vaccine protection of the animals and the elimination of disease spots in the country, which cause great damages, detailed work on fertility problems, etc.

The food industry faces important problems too. Many of its branches and production lines require radical technological and production changes. This calls for an overall revision of scientific research in terms of direction, level and content. Comparisons and evaluations in this area must be based on the worldwide scientific and technical revolution. The level of output has always been and will remain the basic yardstick in determining the level of scientific research. There is no such thing as good science and bad production or good production and bad science.

Finally, let me emphasize that the scientific workers in the institutes and stations and the collectives of the higher educational institutions and development bases will be intensifying their research steadily and will work with an even greater feeling of responsibility for the implementation of the decisions of the 12th BCP Congress.

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GERMAN DEMOCRATIC REPUBLIC

MITTAG ADDRESSES COMBINE DIRECTORS ON MANAGEMENT TASKS

East Berlin EINHEIT in German Vol 37 No 5, May 82 (signed to press 14 Apr 82)
pp 463-479

[Excerpts from concluding address by Guenter Mittag, SED Politburo member and Central Committee secretary, to the SED CCseminar for combine general directors and CC party organizers, delivered in Leipzig, 8 April 1982: "Combines in the Struggle for High Achievements: High Growth in Performance for the Continued Strengthening of Our Republic." Translations of a shorter version of this address as well as of the text of a letter by the combine directors to Erich Honecker are published under the heading, "SED Central Committee Holds Seminar for Combine Directors," in JPRS 80732, 5 May 82, No 2266 of this series, pp 11-23. Mittag's address is supplemented by contributions of ten combine directors and one VEB party secretary, published under the heading, "From the Discussion on Experiences and Requirements," on pp 480-501 of this EINHEIT issue]

[Text] SED CC seminar for combine general directors and CC party organizers: How do the combines increase their contribution to fulfilling the 10th party congress resolutions in the economic field? The significant presentation by Comrade Guenter Mittag is supplemented by contributions of 11 combines on experiences and ways of successful economic activity aimed at increasing labor productivity, efficiency and quality and based on target-oriented ideological party work.

The SED CC seminar for combine general directors and CC party organizers was governed by resolute struggle for fulfilling the 10th party congress resolutions. The basic guideline for implementing the 10th SED Congress resolutions was issued by Comrade Erich Honecker at the third CC session and the CC secretariat conference for the kreis first secretaries. This seminar considered the inferences to be derived from it for the work in the industrial and construction and the transportation and communication combines.

In the letter by the attendants of the seminar to Comrade Erich Honecker, general secretary of the SED CC and chairman of the GDR State Council, this position was given clear expression through high commitments assumed by 157 centrally managed and 66 bezirk-managed combines with a total work force of over 3 million. Those commitments mainly amount to exceeding the ambitious goals of the 1982 national economic plan for industrial production by at least a 2-day production volume,

to make more products available for public supplies, economic development and export in accordance with the requirements for strengthening the GDR. With it, each combine is taking concrete steps to accomplish the higher achievements for 1982 through a reduced specific consumption in working hours, raw materials, energy and material and through an improved multishift capacity use of the available basic assets. In certain areas, material and energy consumption must be reduced in absolute terms. Those funds are already being returned.

This commitment is based on the staunch intention of all communists and all working people in industry and construction, transportation and communication in the GDR to carry out the 10th party congress resolutions rigorously. That intention finds its full expression in socialist emulation, organized by the trade unions under the motto, "High Growth of Performance Through Increasing Labor Productivity, Efficiency and Quality--All for the Good of the People and Peace!" Right now, particularly in preparation of the 10th FDGB Congress, many new ideas and initiatives are coming from it.

The ideological position on resolutely implementing the party decisions is what mainly matters right now. We must make a complete use in a creative way of all opportunities available everywhere in the GDR. And that mainly means that each combine has to mobilize its own capacities. It means combining the well prepared and fast introduction of new products with modern technologies which, in terms of socialist rationalization, cut back jobs and improve working and living conditions, significantly reduce material and energy consumption, and improve the quality of products.

To that end, science and technology must much more than before proceed toward creative solutions of their own. The economic task truly has to be comprehended in industry and construction, science and technology. This also includes the high requirements for making a much better use of available basic assets by a target-directed modernization and a more long-range capacity utilization.

It mainly also means producing intrinsic values through less material and energy consumption, new imaginative solutions and skilled work, by which we also then realize higher production values. That is what we mean by enhanced refinement.

The cost reduction struggle must become more determined everywhere. It means reducing the investment of live and embodied labor in production. It is imperative fully to apply economic accounting throughout the whole cycle of our intensively expanded reproduction, including science and technology.

The 10th party congress has made perfectly clear that we have to take another qualitative step in our socialist intensification. Solving these great economic tasks makes high demands on management activity in fully exhausting the available intellectual-creative capacities and the high skills of the workers, male and female, the technologists, engineers, designers and researchers. This is where our greatest reserve lies, and there is the place that guarantees our success. That is what each person should consider while organizing his further efforts.

It is found that the socialist planned economy based on Marxism-Leninism and under our party leadership is able to react flexibly to new requirements and clearly demonstrates its superiority, especially under the more complicated conditions. For that purpose the party elaborated its economic strategy. Its ten

key points are decisive for implementing the 10th party congress resolutions. The developmental trends that are basic and decisive for the 1980's have, presciently and at the right time, flown into this economic strategy. Such a clear requirement, viable over the long run, is of inestimable value, as one finds, for our party's successful struggle.

In implementation of the 10th party congress resolutions, we shall rigorously further deepen our close economic cooperation with the USSR and the CEMA countries on the whole. We shall carry on this tried and tested course in the future in the sense of highest achievements through jointly introducing top technologies and a production cooperation of benefit to all involved, in everything the CEMA countries need in jointly advancing along the road of the most up-to-date productive forces.

All our efforts in increasing the GDR's economic performance growth are taking place amidst the international class conflict. They are, in fact, a significant contribution to our gaining victory against imperialism in this conflict.

There is no other alternative but peaceful coexistence for a policy which, were it up to the most reactionary and adventurist circles of imperialism, would ultimately lead to war. Our responsibility results from the objective fact that especially in our days real socialism turns out to be the mightiest bulwark of peace, progress and the peoples' struggle for national and social liberation. Our party unequivocally presented at its 10th party congress its attitude toward safeguarding peace, disarmament and arms limitation. We have announced that we fully and completely endorse the peace program of the 26th CPSU Congress. That also is why the GDR has given its full endorsement to the new initiatives of Comrade Leonid Ilyich Brezhnev, secretary general of the CPSU CC and chairman of the presidium of the Supreme Soviet of the USSR, on disarmament and the safeguarding of peace. In line with its international responsibility, our party does what it can to counteract the danger of nuclear world war and make peace permanent.

The policy that aims at confrontation by the U.S. administration carries the blame for the current deterioration of the international situation. If that policy is understood for what it really is, it becomes clear that the United States, on behalf of its lust for imperialist power, is gambling with the destiny of humanity. U.S. imperialism--there is no other way of saying it--is engaged in adventurist and perilous policy. The reactionary U.S. circles currently in power would like to settle the sharpening social contradictions and the deepening economic crisis with the recipe of increased armaments efforts and greater military aggressiveness. U.S. imperialism at present seeks to force its West European allies and Japan step by step to join this confrontation course.

We shall do what we can to strengthen the GDR economically by continued economic growth. That is why we boost what has to be done to ensure all production prerequisites. This amounts to a new and great fitness test for the strength inherent in socialism and the efficacy of its historic advantages.

Continued Shaping of Our Modern Economic Structure

The 10th party congress resolutions on our economic strategy are implemented through our fulfilling our 1982 plan tasks and getting set properly for the 1983 national

economic plan. Thus, the tasks of the national economic plan, to put it plainly, set the measure for the implementation of the party congress resolutions. And here we are concerned with meeting and exceeding the goals for our production growth, especially for export, on the basis of decisively improving the cost/benefit ratio.

For implementing these ambitious tasks we rely on what has been accomplished in our republic and on the greater intellectual and material potential available to us. We also rely, as on a decisive source of our strength and opportunities, on our cooperation with the Soviet Union, as set down in the GDR-USSR specialization and cooperation program up to 1990. During their August 1981 Crimean meeting, Comrade Erich Honecker, secretary general of the SED CC and chairman of the GDR State Council, and Comrade Leonid Ilyich Brezhnev, secretary general of the CPSU CC and chairman of the presidium of the Supreme Soviet of the USSR, agreed on further steps in deepening the all-round cooperation between our two countries. The implementation of these fundamental requirements is crucial for the GDR's continued economic performance growth and for deepening the GDR-USSR fraternal alliance, which we always guard like the apple of our eye. Along this course of deepening the scientific-technical and economic cooperation with the USSR, the material-technical base of socialism will be shaped further in the GDR.

In his speech before the kreis first secretaries, Comrade Erich Honecker called attention to fashioning the structure of production and export in accordance with future requirements. Our economy's efficiency and international positions, he pointed out, will increasingly be determined by the advanced industrial branches that are directly tied up with scientific progress.

The principles in our modern economic structure began to evolve even during the last decade. They concern

- the stronger development of our domestic raw material basis, especially in raw lignite and potash, clay and earth;
- starting conversion to refined metallurgy;
- the further development of modern branches in machine building, especially the fashioning of the assortment structure in machine-tool construction along the lines of the latest technologies;
- creating the premises for the microelectronics industry and starting the conversion of electrical engineering and electronics to a broad microelectronics application;
- a trend toward higher refinement in the chemical industry; and
- a further quantitative and, especially, qualitative development in the consumer goods industry.

All these basic trends are subject to 10th party congress resolutions. They are part of the implementation of our economic strategy. Important points of departure for our further work are contained in the conceptions on refinement. What matters now is to bring to realization these production and export structures in accordance with party resolutions in the struggle for plan fulfilment. Ministry by ministry, combine by combine now must shape its production profile and production assortment in such a way that it fully meets its economic responsibility in terms of this structural development.

Along with it, one must keep in mind the requirements of the day and prepare for sales in 1983 and beyond through concrete scientific-technical and production organization measures. What matters is to have to offer more high-grade export commodities, more top products, and reap hard currency even under toughest competition. That also is of the greatest importance for improving public supplies in high-grade consumer goods proper as to needs. When we generally focus our production at fine and suitable intrinsic values controlled by a favorable cost/benefit ratio, we will also be in the position to meet the targets assigned in consumer goods production for the population.

It can clearly be seen that the still existing disparities among combines is identical with disparities in management activity and also in the quality of party work. The most important task in the work of the CC party organizations in the combines thus is right now to do everything for fashioning the ideological position in the implementation of the 10th party congress resolutions in such a way that it finds its expression in concrete and accountable achievements as they are now needed.

Science and Technology--The Crucial Prerequisite for High Efficiency

At the conference with the kreis first secretaries, Comrade Erich Honecker has called for a penetrating improvement of the cost/benefit ratio and added to that the remark that truly decisive advances today start on the drawing board and in the lab. Science and technology are no ends in themselves but ways and means for implementing our economic and social policy. Economic yield is the yardstick for our technical development.

Only from such a position is a truly creative approach possible to solving scientific-technical tasks. That also calls for making use of the whole wealth of international experience and knowledge. Important in this mainly is that the GDR's own solutions and opportunities are applied in close cooperation with the Soviet Union and the other CEMA countries.

If, in conformity with the party resolutions, the strict and objective economic criteria are made the yardstick for scientific-technical tasks, then we arrive at truly viable solutions for the GDR economy through using the most up-to-date international scientific-technical data. That is why choosing the economy is equally important as point of departure for scientific-technical work and for economic and technical progress. The economic outcome provides the measure for scientific-technical work.

In science and technology, particularly, management activity controls the degree to which results can be achieved. The heart of the matter lies in whether a general director knows how to use his scientific-technical potential as a genuine instrument for solving the economic requirements facing him on behalf of the economy or lets the development of science and technology proceed more or less automatically. If someone treats science and technology as a departmental matter and cannot use that potential to speed up the cycle of intensively expanded reproduction in the combine, he cannot fulfil his economic responsibilities.

Some apparently look at financial, personnel and material funds and capacities in science and technology as naturally given, as it were. They do not understand

that precisely the means for science and technology actually amount to a big advance given to society, charging society with the unequivocal requirement to apply this advance as effectively as possible for the benefit of society.

In every modern industrial country, one of the main expenditures are those for science and technology. That is so for a sound reason because this expenditure, if translated into creative capacity and great economic results, is the most efficient one that can be made altogether. That presupposes a clear management activity position, however, calls for a hard economic requirement and for setting down the cost/benefit ratio as early as in the R&D phase. Science and technology should therefore resolutely be included in economic cost accounting. Savings computed, and adduced to justify the investments of funds in science and technology, still have to be produced and paid back. It would therefore be good to check to what extent scientific-technical solutions worked out for new products, technologies and procedures are saleable within the scope of the combines' intra-enterprise economic cost accounting. Such results of intellectual work can, after all, only be sold if they yield a proven benefit.

By establishing the commodity-money relations also in this field, as is the case already among the production enterprises in a combine, stronger economic inducement might be found for high scientific-technical achievements. That is one of the inferences to be drawn from the Politburo resolution on further measures toward perfecting economic cost accounting for the work in the combines, i.e., our combining the plan more still with economic cost accounting. And then there also is the currency control the bank exercises. All that is based on Karl Marx' understanding, of principle, of the activity of the "societal total worker," in which scientific-technical work also has to be included. As any other societal work needed for producing intrinsic values, the results of this work also enter the value formation process. So science and technology have to be treated with still greater determination as an element of the intensively expanded reproduction cycle in the combines.

Nor must there be any curtailments made to the topics outside the national plan, as far as levels and, mainly, economic effects are concerned. There is, after all, where most of the scientific-technical tasks are found. The demand was raised at the 10th party congress to bring about top achievements at a broader range. We stick to that. No enterprise and no combines is exempt from this responsibility. It is important for economic results and, above and beyond that, for the international positions of socialism. And in this context we also have to offer a comment on constructing means of rationalization on one's own.

Constructing means of rationalization on one's own can no longer be detached today from the picture we have of our combines. In 1981, it rose to a total of M 4.2 billion, whereby it has grown nearly fourfold, compared with 1975. Building on one's own means of rationalization has become a genuine factor of the combines' intensively expanded reproduction, based on most up-to-date technologies. We never have considered building one's own means of rationalization a make-shift solution for short supplies in equipment. Developing it was based on considerations of principle with an eye to our own and to international experiences. It has always been a matter of creating in every combine the intellectual and material prerequisites for immediately introducing the most modern technologies to produce new products. By them solutions are to be effected that are the best for the given conditions in a combine.

Much that has today been created by our own construction of means of rationalization amounts to unique top solutions no one would have supplied us with. Constructing means of rationalization is akin to the pioneer spirit in the technological field and calls for high speed. That also implies assigning ambitious task to all young graduates of universities and technical schools. Nothing could be more criminal than wasting this "golden fund" of our society. This would not only squander abilities but morale and good will as well.

We request the party organizations in the combines and enterprises to pay special attention to the development and assignment of university and technical school personnel and to urge management activity to set up the kind of conditions where such personnel will dedicate all strength, knowledge and skill to the strengthening of the GDR.

In other words: just talking about science and technology profits us nothing. What rather matters right now is to organize the work of our highly skilled personnel most efficiently in such a way that over the briefest period those creative new solutions are generated and realized that we need today for strengthening our republic's position within the international class conflict.

In his speech before the kreis first secretaries, Comrade Erich Honecker asserted: "Also in coping with the great goals of the 1981-1985 Five-Year Plan, we rely on the initiative and energy of youth. We count on its knowledge and its drive to find assurance through creative achievements." Every general director is likely to agree that the youth brigades led by our FDJ, the youth projects, the Fair of the Masters of Tomorrow and the youth innovator collectives, with their economic initiatives in the struggle for high plan targets, are proving themselves at the focal points of economic developments. In fact, as shock troops in socialist emulation they are downright irreplaceable.

The Politburo has accepted the proposal from the FDJ and the FDGB to conduct a congress of GDR working youth in Berlin in April 1983. We expect all state managers to assist the FDJ and the trade union extensively in mobilizing the working youth toward preparing that congress.

Our party also continues to pay great attention to the 40,000 youth brigades we now have and to setting up further youth collectives. What with all these youth brigades contesting for optimum values in the performance comparison under the heading, "Each Every Day With a Fine Balance-Sheet," we could tap enormous reserves. All managers also are well advised to promote much more purposefully the creativity of youth to accelerate scientific-technical progress in the movement of the Fair of the Masters of Tomorrow."

Young personnel will grow and stand up under such tasks. And yet, the number of those who feel challenged, and thus content, in their work still is much smaller than that of those young graduates and young innovators who remain unchallenged. FDJ participation in accelerating scientific-technical progress ought therefore be broadened in all combines. This involves demanding requirements for new solutions as well as more rapid application of innovations.

Increased Labor Productivity and Socialist Rationalization

The task to increase our labor productivity always is the centerpiece of all our efforts in improving social labor efficiency as a whole. This concerns the effective degree of live labor, the outcome of the people's creative activity in socialist production.

With the law on time economy, Karl Marx discovered, and formulated accurately, the fundamental and determining relation between society's outlay in working time and the social wealth in material and cultural goods. "The less time society needs to produce wheat, cattle and so forth, the more time it gains for other production, material or intellectual. As in each and every individual, its all-round development, enjoyment and activity depend on economizing on time. Time economy, as well as a distribution of labor time among the various production branches according to plan, thus provides the primary economic law based on societal production."¹

The whole development of our socialist economy bears out that this fundamental economic law is in effect; as all other laws, it is objective in character. The time economy law functions, as it were, as the law of motion in our socialist economy. Only to the extent that we will progressively account for this objective economic law will we, in accordance with the basic economic law of socialism, accomplish the goal of our socialist production, the continual elevation of the population's material and cultural standard of living. The basic orientation of our seminar conforms with those objective interconnections: "To continue successfully the policy of the main task in the 1980's, economic efficiency, the cost/benefit ratio, must be improved in every way."

Improving the cost/benefit ratio in every way calls for maintaining, and exceeding, the tempo of 1981. It means reducing all cost factors throughout the whole economy. That also holds true for the development of the bezirk-managed combines. Their having been set up marks an important step toward strengthening the GDR's economic efficiency and also a step toward consolidating our socialist production relations.

The industrial commodity production in the 66 newly formed combines under the bezirk economic councils came to a total of circa M 11 billion in 1981. Net production in 1981 came to a total of approximately M 3.4 billion. We are placing great expectations on the development of the bezirk-managed combines. It is important for many of these combines to achieve a noteworthy improvement in labor productivity in 1981.

We think that now the struggle must be conducted everywhere for high labor productivity goals in following the yardsticks applied by the best ones. When we prepared the plan targets, it turned out that some comrades considered the labor productivity increase parameter as a passive result, as it were, obtained by computation. All they see in it is a magnitude resulting from dividing the anticipated production volume by the number of workers. Approaching the increase of labor productivity that way is completely mistaken. It always was mistaken and is all the more mistaken at the present time. Especially now, it matters more than ever to save working hours and eliminate jobs in order to be able, on the basis of one's own possibilities, to

produce more raw materials, material, ancillary supplies, spare parts and means of rationalization for the economy. Boosting our productivity--that is an indispensable prerequisite for ensuring under all conditions economic performance growth as planned and needed.

We must consider the need for greater efforts to boost labor productivity still in a different context. That pertains to making a much better use of available machinery and installations through shift work. That is a task of economic significance. Before one talks about investments and enlarging the size of the basic assets, one must be certain about the utilization of existing funds. That is the first and foremost source of accumulation and one of the least expensive as well.

If the capacity use parameter is improved by only two-hundredths, it means using the basic assets by 10 extra minutes each day. And that makes possible an increased output in industrial commodities by M 4.5 billion per year. That shows the range of our reserves.

To alter the situation, it is necessary

- to place investments only if multishift capacity use is ensured from the outset and
- to organize rationalization in connection with robot technology in such a way that whole technological processes are provided with a continuous production flow and the transition is made to multishift labor.

To create the prerequisite needed for that, territorial organs must of course play their proper part in it. Much organizational, and mainly political-ideological, work thus has to be done in this field.

The 10th party congress set down such ambitious goals for introducing robot technology because this is one of the most efficient ways to boost labor productivity and, at once, make better use of the basic assets. Clear tasks were mentioned and as a premise it was adopted that on the average a robot must set free 2.5 workers. We must be clear that this is a minimum objective. International experiences inform us about 4, 5 and sometimes even more released manpower.

We have made considerable progress within one year in the development and production, and partly even in the application, of robot technology. It shows that the socialist planned economy in the GDR can react fast and flexibly to new requirements of technical progress. And not in a limited area only, but at a broad range.

What has here been developing in initiative, energy, and the expertise in genuine innovations and their rapid application in practice is truly impressive. It is so impressive mainly also because it has not been and is not the outcome of what an exclusive collective of specialists did but is the outcome of thoughts and efforts by a large group of working people in many places, out of needs for application, in machine building as in metallurgy, in chemistry as in the light industry.

The objective resolved at the 10th party congress is ambitious. It conforms to objective criteria. If one wants to be successful in the effort for the highest labor productivity, one must proceed toward resolutely and speedily introducing robot technology. Looked at internationally, one can clearly see that the speed in

introducing industrial robots and the breadth of their application is increasing briskly. Already, the highest efficiency criteria are in place for the application of robot technology. Robot technology is developing into the most efficient way of automating whole technological processes in that extant installations are being lifted onto a completely new production level, production processes are made both continuous and flexible, and working in three shifts becomes possible and necessary.

This development and these results teach us important lessons, too. They are, in particular, that the GDR has the requisite intellectual potential, the knowledge and the abilities to implement most up-to-date developmental trends at a broad range. These lessons also tell us, however, that a correct and ambitious requirement at the right time awakens initiatives that otherwise would have lain fallow. And we mainly also learn here that through purposeful management and under party leadership novel tasks at large dimensions can be solved and are being solved.

What matters now is to make effective what has been generated and continues to be generated completely for strengthening our republic. Here, most of what has to be done is still ahead of us. The most important thing now is to use robot technology as the core of a conversion of the technological processes so that it gives rise to profound effects on the economy. They must concern the boosting of our labor productivity as well as a more efficient use of the basic assets. Robot technology application must be used as a modernization tool for existing techniques toward the automation of production processes, with the working and living conditions to be improved along with it.

Preserving this unity between high economic results and improving working and living conditions is our mission and our most important concern in socialist rationalization.

Production Growth With Decreasing Production Consumption

Production growth, better qualities and decreasing costs are three sides of the task of ensuring a continued economic performance improvement in our republic in the 1980's. Cost reduction here becomes increasingly a growth source of crucial importance. That concerns in particular a decided reduction in production consumption plus avoiding any losses. Though altogether in the last 2 years a perceptible change in the development of production consumption has taken place, when compared with previous periods, even that, gaged against experiences, can only be considered a beginning. In continuing a resolute reduction of production consumption the greatest reserves can be found.

Bigger steps are needed in every combine in reducing energy consumption, more rationally and efficiently using domestic energy sources, and saving imported energy sources still much more. We have great reserves which are mainly found in the vast performance disparities in the energy economy.

If one considers that, e.g. in the VEB IFA commercial vehicle combine, an energy intensity reduction of 9.4 percent was reached in 1981, compared with 1980, and another 7-percent decrease is supposed to be attained in 1982, compared with 1981, -- while the growth rates of production in these years are around 5.8 and 7 percent-- that demonstrates responsible work.

Our energy reserves are large in many respects. Available energy sources still are not always used efficiently. In looking at the results in using available secondary energy--to us, energy sources that cost nothing--it becomes obvious that it must play a much greater role in combine activity. That is part of bringing to realization the intensification course.

We advocate that in the future ministers assign the combines clear requirements for the use of secondary energy under precise government accounting and supervision. Things must not be left to themselves here, as they have been. There, money is lying in the gutter, to put it idiomatically.

For the combines, the development of basic material costs per M 100 in commodity production is a clear yardstick for their share in the effort to decrease production consumption. The measures issued by the Politburo and the Council of Ministers on improving economic cost accounting ought mainly to be seen as a clear signal that from this very instant the matters of cost reduction and crucially improving the cost/benefit ratio call for the greatest attention by the general directors of the combines and that work as such is greatly judged in accordance with it. Analyses reveal that some combines and enterprises still are not serious enough in their concern for costs, from which large economic losses result.

All these matters of decreasing costs--as altogether the reduction of public expenditures and the avoiding of any losses--apply to all areas, the industrial combines as much as those in construction, transportation and communication. This is an economic demand placed on all; everyone is responsible for paying strict attention to it and has to draw his personal conclusions from it.

Purposeful Intensification Through Optimum Use of All Available Funds

Intensively expanded reproduction, strictly speaking, calls for a different approach to the basic assets economy as well as the material and energy economy.

Even from the study of political economy it is sufficiently known that Marx regarded embodied labor as a basic material condition for the cycle of both simple and expanded reproduction. This cycle of an intensively expanded reproduction is all the more effective, however, the more favorable the ratio is between embodied and live labor, the more one succeeds, in other words, in producing a constantly growing social product while funds more or less remain the same and, furthermore, are decreased.

Basic assets available in industry, construction and transport come to M 413 billion in 1981. That includes a value of M 241 billion in equipment. This, in economic dimensions, enormous sum is what our intensively expanded reproduction is based on. How will it gain still more production effectiveness?

One can still encounter the view that expanded reproduction simply required an extension in terms of value of available basic assets which should then automatically give rise to investments. But as one also knows, Marx already pointed out that through higher economizing of the constant capital simple reproduction as such can become a source of accumulation.

This fundamental economic inevitability is of special importance under prevailing conditions when the basic assets have grown considerably and the average basic assets allocation per industrial worker has reached a value of more than M 100,000. An unequivocal implication results from that: Any effort aimed at making available basic assets economically more effective, through technical improvements or a higher shift capacity use, is ten times as effective as any measure of enlarging funds by investments. Thus we have every good reason to do away with the residues of an ideology that starts from the premise that any production advance requires new investments and also the withdrawal of so-called obsolete basic assets. Such an ideology opens the floodgates to the squandering of the people's wealth. And that was in fact blocked by the Politburo resolution on more skillful management and planning for basic assets reproduction.

Any desultory elimination of basic assets neither stands up to economic criteria nor is it technically justifiable. That one reads about also in Marx. In his thoughts on the economy of constant capital, Marx first quoted Sturrock, who had written: "To repair means to renew. To me, the word 'replacement' does not exist. We renew our machines. If you want to buy a machine new, you spend more money than necessary. On the old machine, you will always find a few wheels, an axle or some other piece that is usable, and that helps putting a machine into use which is as good as a completely new one. Now I produce a new locomotive every week, or one that is as good as new because the boilers, cylinders or understructures are new."²

Marx explained in this context: "This process does not apply to an entire factory but it does apply to the picture of constant, partial reproduction mixed with repairs of the fixed capital, looked at within overall production on the social scale."³ And elsewhere he writes: "An old sold machinery does not become scrap at once. It finds buyers among small-scale spinners and others who can use it still. As in most machines only few parts wear out so that they have to be replaced after 5 to 6 years and where even after 15 years, provided the machine was not in its main principle superseded by new inventions, that which was worn out can easily be replaced (and I speak here particularly of spinning machines and drawing frames), no positive limit can possibly ever be set for the working life of such machines."⁴

In our own time it is known that automation does not mean completely replacing the whole aggregate. This proceeds more or less by way of integrating old machines and equipment within complex automation by installing appropriate control automation or accessory devices.

Depending on production problems, e.g., in conventional machine tools, along with digital controls, diverse components can be attached: loading and unloading devices, linear testing systems, servomotors.

Of extraordinary importance in this context is the initiative of Erfurt's Forming Equipment. Combine in making many of the 18,500 presses in the GDR more productive through accessories, whereby to maintain them on a new technical level. This shows economic thinking and action. This, undoubtedly, provided a model that applies not only to forming equipment.

The continued use of older machine tools through productivity boosting automation accessories fully conforms with our line on making better use of the raw materials

through refinement. It impressively shows that recycling need not be narrowly limited to raw materials or secondary raw materials but is likewise applicable to semi-manufactures, component parts and entire machines. Supplementary automation is thus a modern example for the words of Marx that the old industry is the basis for the new. So, simple reproduction can indeed become the source of expanded reproduction.

Time economy naturally also includes organizing production installations for running friction-free.

In summary we may say that greater effectiveness of basic assets in an intensively expanded reproduction makes new demands on all management activity. This requires

- a clear ideological position on making more effective use of what one has and opposing the wrong demand for all-inclusive replacements;
- preparing creative solutions for modernizing our equipment by supplementing it with means of modern rationalization and automation; and
- preserving proper technological organization.

Where investments are placed they must mainly serve to make extant installations and equipment more effective. That implies completing projects section by section in order to boost outputs as fast as possible. Everything must be done in investing our wealth as well as possible and making it production effective as fast as possible. Emulation can derive one goal from it only--beating scheduled deadlines.

As important as the basic assets economy is the economy of the energy and material funds within the production process. Their total volume came to a value of M 70 billion in 1981.

An objectively conditioned production flow from the raw materials to the highly refined end products exists, as everyone knows. That also is why one must see to it at every production sector that energy and material funds are used with the greatest efficiency. That mainly means carefully abiding by quality specifications and avoiding all rejects and seeing to it that as little waste as possible is generated and that the technologically caused waste will be recycled.

A key issue in the materials economy today and for the future is that this involves not merely improvements in relative savings--i.e., decreasing the specific consumption of raw materials, energy sources and material--but an absolute reduction in the funds to be used in comparison with the previous state of affairs, so that funds can be used elsewhere or that the basic materials used for producing them serve more effective economic purposes. Material saving must be expressed by real fund savings. Thus we are concerned everywhere with dealing with the available raw materials and energy sources with utter care.

One of the things the seminar brought out was that the harmful ideology that opposes the intensification economy, and which we call "ideology about tons," has not yet been done away with in every respect. It is an ideology in favor of the path of least resistance. The more of material, and the more expensive it is, the easier it is to fulfil the plan. But that merely means living at the expense of society. Through our performance rating system we have reduced the leeway for such an ineffective mode of thought and action.

Marx already pointed out that the product of one industry was the raw material of another. "The waste product of one industry is the raw material of another."⁵ "The most striking example of using waste," he said elsewhere, "comes from the chemical industry. It not only consumes its own waste products by finding new uses for them, but even those of various other kinds of industries."⁶

Marx also taught us how to conduct ourselves economically, in the sense of intensification, on making more use of secondary raw materials. He wrote: "As raw materials become more expensive, that, of course, induces us to use waste products. Altogether, the conditions for such recycling are: the massiveness of such excrements, which arises only in large-scale labor; improving the machinery by which substances which in their original form formerly were useless can be converted into a form that suits the new kind of production; and the advance of science, especially chemistry, which discovers the usable properties of such waste products."⁷

Under those aspects, the 30 to 40 percent of recycled secondary raw materials is much too low. We must now use traditionally recycled secondary raw materials 100 percent and furthermore organize the recycling of secondary raw materials which thus far were not recycled or only to a small extent.

What is the situation now after the conference with the kreis first secretaries and the seminar on implementing the 10th party congress line on intensively expanded reproduction?

Intensively expanded reproduction in terms of the economic strategy for the 1980's means that the raw materials and energy sources, buildings and installations that exist in the GDR are as best possible brought to bear on a constantly growing economic end product through disciplined and skilled labor.

Intensively expanded reproduction requires that our own raw material sources and our own capacities for processing them are as much as possible used on behalf of the entire economy, public supplies and export.

Intensively expanded reproduction requires making a fuller capacity and, thus, more efficient use of the available large production funds in all economic branches through multishift labor, maintaining them carefully, increasing their productivity through targeted rationalization and automation measures, and also placing investments there in a more targeted manner.

Intensively expanded reproduction calls for using the available raw materials and material and energy sources in the most economical way and determining for each raw material and energy source the economically most beneficial utilization purpose. From extant raw materials and material best-quality products must be made everywhere. At the same time we must recycle secondary raw materials as best possible.

Intensively expanded reproduction means decisively improving the cost and benefit of production, mainly reducing costs as well as stocks, to the required minimum for ensuring smooth production processes. It may be mentioned in this context what Marx has said about the "reduction of the total labor quantum entering the commodity." That has to be, according to what he said, "the essential criterion

for increased labor productivity, regardless of the social condition under which one produces. In a society where the producers produce according to plan, even in simple commodity production, labor productivity absolutely should have to be measured by that standard."⁸

What is the main road that leads to solving these intensification tasks?

The answer is plain: Science and technology must consistently be made economically more effective. Up to 90 percent of that is decided in the prevailing state of development in the GDR by target-directed management activity. Because on its level essentially depends how we direct the great intellectual potential available in our country at creatively solving those tasks that can make us successfully advance in the continued implementation of the 10th party congress resolutions.

Performance Comparisons Among Combines

At the conference with the kreis first secretaries, Comrade Erich Honecker explained that performance comparison was a fundamental method in the political management of economic processes and how it is to be conducted in practice. The comparison manifests the experiences of the best ones and thus significantly helps achieve great economic results at a broader range. The performance comparison therefore belongs in the basic arsenal of socialist economic management. It grows on the ground of socialist production relations and is part of socialist emulation as a form of comradely aid and mutual assistance. The performance comparison includes experience exchange and so helps all involved advance toward highest productivity and efficiency.

Only remember that even Lenin granted an important function to the performance comparison in establishing the basic principles for socialist economic management. He called for a thorough analysis of all economic data, as we know. He demanded that causes for deviations from optimum levels were to be uncovered accurately and to explain why one success or another was achieved or why backlogs could arise. That was so in the first years of Soviet power. Today the socialist economy has the means for an extensive and refined orchestration to account for economic processes down to the finest detail. Unfortunately, however, for some the work with data appears to reach its end at the moment they are put on paper. Sometimes one can hear the term "cemetery of figures." Such a judgment, however, can only come from someone who himself works poorly with statistics. Computations and statistics are no ends in themselves but are ways and means for decisively improving expenditures and results that must be used sensibly.

This ideological attitude toward data analysis and comparison has much to do with the attitude toward the economy as such. For here are displayed the will and ability to penetrate the economic process and comprehend the nature of economic processes.

It was Marxism-Leninism that truly turned economics into a science. On its basis it became possible for the first time to design a true picture of economic processes that conforms with objective reality and of their deepest causes. Its centerpiece is Marx' labor value theory.

So we have inherited a rich legacy. That we should use still better to strengthen socialism. How can that be done? By deepening our economic knowledge by means of the classical authors of Marxism-Leninism and correctly applying such knowledge in practice as a means for a better and more conscious control of economic laws, a tool for our striving for higher labor efficiency and qualities.

It mainly means organizing and conducting performance comparisons. This has to be done in the sense of disclosing and tapping reserves. It is not a matter of formally comparing figures. Nor is the purpose of comparisons of performances a matter of giving out grades. It is a way to show how and what one can learn from someone else. Performance comparison is a give-and-take. The performance comparison method is so important because it combines actually achieved results with the educational effect, because performance comparisons urge conclusions on us.

And mainly: they make demands on one's own attitude as a communist, on the ability to reveal the secret of one's own success or to learn from what is better and thereby modify one's own habits, one's working and life-style. So this is always a frank and honest comparison of performances, because in order to change, one has to explore the causes of discovered performance differentials.

In almost all cases, the chief cause is difference of quality in management activity. There lies the crucial point of departure for disparities in economic results. That becomes clear when we consider whether and how management activity presciently orients to an intensively expanded reproduction as a basis for the constant performance improvements of the combines, and which concrete measures are derived from it and dealt with. That in particular concerns the question as to how precise economic leads determine scientific-technical work and the whole management development of a combine. It is understood, almost, that these goals also form the decisive basis for the political leadership activity and for the party organization education given the executive personnel.

The following conclusion from the application of performance comparisons also is of universal validity: each must know his tasks and responsibility within the overall process exactly--each enterprise director, each department chief in the parent enterprise and in all other combine enterprises. Uniform action in line with highest economic criteria for our intensively expanded reproduction holds the key to our success.

Each minister should constantly check and see why one combine or another constantly comes up with a high performance growth and others do not as yet. That makes the beginning for surmounting performance differences, and therein lie our largest reserves and also our greatest opportunities.

If we turn socialist performance comparison this way into a standard element of our work everywhere, the quality of management activity will improve decisively and make a difference in the form of greater productivity and efficiency.

Thus, as far as our task in improving economic performance for strengthening our republic is concerned, much, if not everything, depends on how each manager lives up to his responsibility in a communist spirit.

That was made clear in our seminar. With it, great constructive work was done, and new reserves were tapped and made effective for our economic development. And it was found useful that the work in the seminar that focused on the most important areas of emphasis had been prepared over the long range. It was also found to be of benefit that the work in the seminar itself had been rigidly organized in accordance with a unified conception and a number of questions could be discussed on the spot with the competent ministers, representatives of the State Planning Commission, and the ministry for materials management, and that the pertinent decisions were made by the ones in charge.

On the basis of this working method, coupled with the high political responsibility the seminar attendants displayed for solving economic tasks, important results were achieved for our republic, for the continued successful implementation of the 10th SED Congress resolutions.

This makes a crucial contribution, for 1982 and beyond, to continuing the implementation of our party policy, aimed at the good of the people, as set down through the main task, the unity of economic and social policy. To go on and create all prerequisites for it through high achievements is what our responsibility to the party demands of us.

High obligations were assumed in this sense; they will be fulfilled point by point. These great commitments express the only possible position for a communist who bears responsibility in our economy. It is the position of enhancing the performance goals scheduled up to this point.

Time and time again the realization is confirmed that on the basis of a clear requirement, which unmistakably and compelling proceeds from unavoidable needs, the readiness to face it all is also awakened. Many scientists, engineers and skilled specialists consider an honor being confronted with such novel requirements and being given the confidence that they will find viable ways to meet them.

While everything is being done now in the combines to create the conditions for meeting those tasks and for surpassing the 1982 national economic plan by using the opportunities of one's own, and especially those of science and technology, we must always remember how great a creative potential exists in the combines, how much strength our republic has generated in the past under the leadership from its Marxist-Leninist party, and that in this unity between party policy and working class and all working people's trust there is also vested the guarantee for our future successful advances.

We shall do what we can to strengthen further socialism in the GDR by fulfilling and exceeding the demanding tasks of the 1982 national economic plan and thereby make our most important contribution to the safeguarding of peace.

FOOTNOTES

1. Karl Marx, "Principles of the Critique of Political Economy," Dietz publishing house, Berlin, 1953, p 89.
2. Quoted in Karl Marx, "Das Kapital," Vol II, Marx/Engels, "Werke" (Works), Vol 24, Dietz publishing house, Berlin, 1963, pp 179-180.

3. Ibid., p 181.
4. Karl Marx/Friedrich Engels, "Letters about 'Das Kapital,'" Dietz publishing house, Berlin, 1954, pp 82-83
5. Karl Marx, "Principles . . .," op. cit., p 604.
6. Karl Marx, "Das Kapital," Vol III, Marx/Engels, "Werke," Vol 25, Dietz publishing house, Berlin, 1963, p 112.
7. Ibid., p 111.
8. Ibid., p 271.

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GREATER USE OF 'SECONDARY ENERGY' URGED

East Berlin PRESSE-INFORMATIONEN in German No 67, 10 Jun 82 Supplement pp 1-2

[Report by Press Office, Chairman, GDR Council of Ministers: "Secondary Energy--Economic Source of Energy"]

[Text] The economic strategy of the 10th SED Congress has assigned the target to achieve a maximum performance increase through the least possible expenditure of energy, raw materials and material. For that, a more rational use of energy increasingly becomes the key to satisfying out energy requirements, as Erich Honecker affirmed at the Third SED Central Committee plenum. The fact is that we can just as little increase our energy, raw material and material resources as our labor force.

Socialist intensification under the conditions of the 1980's makes the highest demands on the management of economic processes, especially in enforcing the most rational and economical use of energy. With respect to energy, concretely, that means total savings for the 1981-1985 period at an equivalent of 170 million tons of raw lignite. That amounts to circa two-thirds of our annual extraction of it, to show the magnitude we are talking about. That amount suffices for supplying all coal power plants in our republic with fuel for a year.

Secondary energy is an important item on our energy balance-sheet. In our overall objective it comes to an equivalent of more than 20 million tons of raw lignite. That makes sufficiently clear that "secondary" here in no way means that these forms of energy are of less importance or secondary in rank. To us, secondary energy rather is the cheapest and safest and most productive energy reserve because it is available in most combines, enterprises and facilities. So, economic reason alone would demand extracting and using it on a priority basis.

Its use calls for only one-sixth of the effort approximately that would be needed for supplying primary energy like raw lignite and its refinement products, lignite briquette and natural gas. Strictly speaking, the benefit is far greater, if it is taken into account that, because of the secondary energy, high-grade energy sources need not even be transported, supplied and used. On the other hand, the use of secondary energy is also an effective method for protecting our environment.

How Are We Using Our Reserves?

By secondary energy we mean those forms of energy which, through physical processes, are yielded inevitably through energy conversion and application processes and can be recycled through proper procedures. It can come as waste heat, waste fuel and potential energy. The plan calls for using more than 70 percent of our secondary energy by 1985. To solve this task, we must pay more attention to tapping all available secondary energy in the combines, enterprises and institutions. That was emphatically reiterated at the SED Central Committee seminar with the general directors of combines and party organizers in April this year.

First of all, it is a matter of determining the useable potential available on the basis of extensive energy process analyses as well as the most advantageous procedures, technically and economically, for using it and for putting it into operation as rapidly as possible. The VEB Otto Grotewohl Boehlen, an enterprise in the VEB Petrochemical Combine Schwedt, is setting an example for using secondary energy. There, more than 90 percent of an accurately analyzed yield in secondary energy is already being used. More than 70 percent of the secondary energy resources yielded are at present being used in the VEB Hermann Matern strip mill combine, the VEB Walter Ulbricht Leuna Works Combine, and the VEB Heidenau automation equipment construction, tracked vehicle construction and cellulose and paper combine.

The energy rationalization conceptions in those combines envisage making still more use of secondary energy in the future. Their recipe for success lies in that all managers, from the general director down to the foremen, and all working people are committed to uncovering and using secondary energy reserves while also extensively resorting to a construction of means of rationalization of their own. Such initiatives then translate into lower operational costs. Prime costs, obviously, are positively affected by it.

Clear reserves, on the other hand, are shown in the results in the VEB Baukema Combine, Pentacon Dresden and the IFA commercial vehicle combine. There, more than four-fifths of the secondary energy now still remains unused. Proceeding from a thorough analysis of their own work, one must there mainly study the best experiences of the most advanced combines *in situ* to find out how they might themselves come up with better results and what ways and means are needed for it.

Yields in Various Forms

Investigations about secondary energy supplies indicate that the useable reserves at this time are diverse in kind and quality. Waste heat, coming up to almost 90 percent, amounts to the largest share in absolute terms. It appears in the forms of smoke and waste gas, air exhaust and cooling water from industrial installations and as product heat, for instance in combustion processes in the ceramics industry. Nearly 10 percent of our current secondary energy potential is waste fuel, in which waste gas from metallurgical processes, lignite slurry and other combustible waste products predominate. Being circa half a percent, the secondary energy reserves yielded in a potential form constitute a small amount, to be sure, yet it should not be underrated. This mainly includes exhaust under high pressure, compressed air and the kinetic energy of vehicles.

We especially get large volumes of waste heat from industrial processes. Extra-ordinary energy effects are derived, e.g., from recycling high-temperature waste heat coming, for instance, from the waste gas in the more than 20,000 fuel-heated industrial furnaces and driers with temperatures between 300 and 1,700 degrees Celsius. By a 100-degree preheating of furnace air one can save there circa 5 percent of the fuel directly. From the high-temperature processes, more than two-thirds of the secondary energy reserves are to be obtained by 1985.

In the parent enterprise of the VEB glass fibre Oschatz combine, it became possible, for instance, to save considerable amounts of energy by using the waste heat of glass melting furnaces. The relatively low expenses that made were amortized by much reduced energy costs already after 2 months.

The use of pit heating recuperative furnaces of the VEB steel and rolling mill Brandenburg, developed and produced right in that plant, which made possible a preheating of the air to 600 degrees Celsius, brought energy savings of 30 percent. Using waste heat does not only lead to energy savings, however, but often also to technological improvements such as greater performance in the installations, so that it contributes to our intensively expanded reproduction. In many cases, this way then available basic assets need not be expanded.

Also the steam production in the waste-heat boilers and the supplying with it of technological and other heat consumers, the production of electrical energy and the direct-driven turbocompressor and other machines with steam turbines constitute an extremely valuable energy rationalization measure. The greatest benefit comes from making sure that the waste-heat steam is used all throughout the year. That depends on pertinent territorial supply conceptions for making heat available beyond enterprise boundaries. This is a task to be coordinated by the official local organs.

Complex Solutions for Waste-Heat Utilization

An example in this field is the cooperation between the steel and rolling mills in Brandenburg and Riesa and the energy combines and municipal councils. The VEB steel and rolling mill Brandenburg, for example, supplied last year alone thousands of apartments, public institutions, and almost 20 enterprises in the city of Brandenburg with more than 130,000 tons of steam, waste heat of the Siemens-Martin furnaces. Almost 60,000 tons of raw lignite thus did not have to be extracted and transported. Nor did one have to build a separate heating plant. But the expense for building the waste-heat boilers was relatively small. From this comes the experience of conceiving and implementing industrial and territorial heat supplies from the outset on the basis of secondary energy.

There are already technical traditions in the use of waste fuels. The waste-gas from blast-furnace processes, for instance, has long been used in preheating combustion processes and in heat and electrical energy production. Lignite briquette slurry, left behind in considerable amounts, especially on coal transshipment sites and by large-scale consumers, is most efficiently used in so-called mill-heating. A new design by the VEB steam automation Leipzig makes possible producing from this high-grade waste fuel 600 kilogram of steam per hour in a fully automated boiler. Installations using other waste materials also, as the energy wood chips combustion plant in the VEB for kitchen furniture in Radeberg, help ease our energy balance.

Secondary energy in potential form often does not yet receive the attention it deserves. Inspections keep pointing up that energy-intensive enterprises with steam networks of different steam pressures do not yet use the steam differentials to produce electrical energy, for instance. That gives away the opportunity for using secondary energy when the steam pressure is choked like that.

Second-Hand Energy

The task assumed by the combines of a two full-day output in excess of the plan by using the allowed amounts of energy, raw materials and material demands of each combine and enterprise to make more intensive use of secondary energy at once. To that end, energy processes, technologies, installations and aggregates must be analyzed accurately and measures must be taken on completely tapping available energy reserves.

What is wanted is secondary energy in just any form and its extensive use in the enterprise and territory. Extensive here means that secondary energy be optimally used in line with the prevailing state of technology. That makes it necessary, e.g., to create rapidly still more effective solutions for the use of waste heat from many industrial furnaces. Also the use of waste steam which, confined to technological installations, does not always come off consistently, can be greatly improved by means of heat storage units and thereby be realized more extensively.

In the non-producing sector and in the territorially managed industry, secondary energy becomes also available in various forms. There one is presently preparing programs for using it in analogy with those already in effect in industrial combines. Bezirk councils in Leipzig and Magdeburg have long been pioneering in that direction. The available secondary energy potential has been thoroughly analyzed, and concrete ways have been found to put those reserves to use extensively.

Waste heat in shopping malls turns out to be an important energy source. By use of the heat pump principle, the waste heat from central air conditioning installations can be used for heating purposes and warm water production. More than half of the heat needed for heating can thereby be saved. Those reserves ought to be used by 1985 in all 1,100 shopping malls in our republic.

To preserve heat, for example in department stores and shopping malls, their entrances have air locks. When warm air is no longer surrendered to outdoors but recycled in a circle, it can largely be reused. This way, the two department stores in Leipzig achieved energy savings of more than 40 tons of raw lignite annually.

Especially the use of heat pumps is highly effective when there is a simultaneous need for warm and cold air. In the Mittelbach animal production LPG in Karl-Marx-Stadt Bezirk, for example, a heat pump refrigerates the milk after it comes off the milking-stool. The heat released thereby saves annually 800,000 kilowatt hours of electrical energy for heating water in a 2,000-unit installation.

Constantly increasing the proportion of the technically useable secondary energy needed places science and technology before ambitious tasks. In principle, new production procedures and technologies must be designed in such a way that no or

but little secondary energy is generated. These installations, poor in secondary energy and waste products, often have entirely new working principles. On the other hand, through new technological solutions the prerequisites have to be laid for reducing the prevailing limits of the technological and economic useability of secondary energy. That includes, among other things, the application of eddying whirl techniques and the already available data on compressor heat utilization and the use of heat in solids.

The degree to which secondary energy reserves are used in the combines has been receiving a high place value in the performance comparisons in these economic units. The status attained in this essential field of rational energy consumption is considered a decisive criterion in awarding the title, "For Exemplary Energy Economy Work." The challenge of our time, to fulfil and exceed our economic performance goals with less energy and a more rational and effective use of domestic energy sources and a much greater economizing in imported energy sources, can be confronted by all areas effectively and successfully by the tapping of available secondary energy reserves.

5885

CSO: 2300/308

SUCCESSES CITED IN LOWERING BUILDING MATERIALS CONSUMPTION

East Berlin PRESSE-INFORMATIONEN in German No 62, 28 May 82 p 2

[Article by Herbert Musch, deputy minister for construction: "Build with Less Consumption and in a Shorter Time"]

[Text] The further increase of the national economic effectiveness of investments, in other words the attainment of a higher growth in commodity production per invested mark, is among the crucial points of the economic strategy for the development of the national economy of the GDR in the 1980's decided at the 10th SED Congress. To bring about the realization of this task, the construction workers are focusing their efforts, first of all, on the realization of highly-productive, modern technologies, to save labor time and material, and to surpass by far the level achieved up to now. Secondly, it matters to them to achieve a further decisive reduction in the specific construction expenditure per use-value unit through the application of material-saving building constructions and building technologies.

In this way, the construction share of the total investments available for the benefit of productive equipment is to be reduced to a magnitude of 24 to 25 percent. This means the decrease of building expenditures by 15 percent by 1985 compared to 1980. In connection with this, the construction times, beginning with the building site preparations and ending with the test operation of the main production installations--in other words, including the assembly of equipment--are to be reduced to the social norm of 2 years. This makes it possible to accelerate effectively the increase in output from investments that have been put in. Based on the fundamental orientations of the seventh building conference of the SED Central Committee and the GDR Council of Ministers, the construction workers in industrial construction have in so doing attained the first good results jointly with the investment patrons and the partners in the equipment industry.

Make Maximal Use of Building Capital

Especially in the preparation of the investment projects, the original conceptions of the patrons could be changed through the thorough study of the 1981 plans and in so doing the costs could be reduced by more than 550 million marks. During the first quarter, reductions in building expenditures amounting to about 300 million marks could already be demonstrated. The goal is to reduce the planned building investments by at least 450 marks this year.

The most important task consists in attaining the planned increase in output of industry through maximum use of the existing building capital, through reconstruction and modernization of production buildings instead of new buildings. All experience up to now confirms that this demands only 50 to 60 percent of the building capacities and materials required for new buildings. At the same time there is a substantial reduction in construction time. This requires already prior to the elaboration of the task formulation a close comradely cooperation between investment patrons, building combines and the partners in the equipment industry.

Of highly urgent significance is the reduction of the transportation expenditure, especially through the reduction of transports of natural substances and the rationalization of the transportation, transfer, and storage processes at the building sites. Of the reductions in building expenditures in 1982 accounted for thus far, approximately half have been achieved through the use of foundation processes involving little excavation, such as the gripper excavator process and the drilled pile foundations, through the broader use of ground stabilization processes instead of concrete roads, through the equalization of soil mass in the building site area, the reduction of transportation distances for the hauling away or the hauling back of excavated soil masses, and other methods. These measures entail simultaneously a substantial reduction of fuel consumption.

Design and Build With Minimum Use of Material

Good progress was made by the construction workers in the reduction of expenditures for preparations of building sites. Here it was, first of all, newly-developed construction solutions, for example halls with under-span sheet-metal roof, textile compound constructions, building roads made of discarded truck tires and with textile fabrics, which during the past year led to a reduction in building expenditures of around 187 million marks and in labor time by 4.5 million hours. Beyond this considerable amounts of cement and steel were saved and transportation expenditures were not required. Controls of such investment projects, whose total expenditures run to about 1.25 million marks, point to the possibility of further reductions in expenditures amounting to about 260 million marks.

New material-saving building designs and building processes account for a significant share in the reduction of building expenditures. In particular in the case of halls and one-story buildings, more than 40,000 tons of cement and 20,000 tons of rolled steel could be saved in 1981 through the introduction of light support constructions, as well as new solutions for roofs and outside walls along with improved insulation of the buildings. In the future still greater attention must be given to the selection of optimal combinations of building materials in the planning of buildings and building installations corresponding to the functional and technological requirements.

The demand for reduction of building expenditures and securing of the shortest construction times is, above all, a high demand for quality of the planning and preparation of the investment projects. Through the close cooperation of patrons and chief contractors significant savings can be attained during these early phases in regard to building expenditures and construction time if already in the formulation of the site plan and the building conceptions some important principles receive still greater attention. Among these are the concentration and compaction of buildings

on a site, the flat transfer of supply and disposal roads, the reduction of established traffic and storage areas, and the joint use of existing plant facilities. For this a great deal of responsibility rests on the shoulders of the investment patrons, the territorial planning organs, and the planning groups for industrial construction of the building and assembly combines, because omissions in this phase of the preparation can no longer be made up even through the concentrated use of the building capacities in the realization phase.

8970
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LARGE ENTERPRISES, VESTED INTERESTS PLAYED NEGATIVE ROLE IN REFORMS

Budapest VALOSAG in Hungarian No 5, May 82 pp 23-35

[Article by Erzsebet Szalai: "The Large Enterprises and the New Phase of the Reform Process"]

[Excerpts] Even in its ambiguous realization, full of backward steps, the economic reform of 1968 represented significant progress toward the development of conditions for a socially controlled market economy. This was not primarily because even the very limited unfolding of enterprise independence liberated significant growth reserves, especially in small and medium enterprises and in agriculture; since the declaration of enterprise independence was not accompanied by a change in the social-economic institutional system and the large enterprise structure of industry, the brief upswing following 1968 offered reserves for conserving what already existed, what we wanted to transcend, and not for going beyond it.

The long-term effects of the reform were changes, difficult to measure quantitatively, in the social-economic view and in these relationships themselves--mixed with other external and internal factors--which laid the foundations for a continuation of the reform process.

The Long-Term Effects of the 1968 Reform

1. The economic-social processes of the period after 1968 gave birth to a number of new experiences. Among these one of the most essential was, perhaps, that the reform attempts starting from above, from the sphere of economic policy and the regulator system, finding themselves in opposition to the linkage system, interests and will of already existing social-economic units, were forced onto the defensive and could become carriers of aspirations opposed to their original goals. This is not to say, naturally, that the economic policy to 1968 could have carried out its will without restrictions, but the visible limitations to the realization of the goals were, as it were, outside the system itself. It was determined by such "interest free" factors as the low consumption level, investment over-demand, excessive and growing indebtedness, etc. The objective foundation for this was that the branch, institutional and large enterprise structure inherited in 1968 developed or became general in the middle 1960's; the existence of large economic organizations with independent interests and methods for realizing their interests gave an internal uniqueness to the

economic-social system. Earlier also there were large enterprises and institutions representing them--branch and regional party and state institutions. Earlier also there were separate interests and methods for realizing them. But they did not constitute such a concentrated force--and thus did not have such an effect on the economic mechanism--as to bring openly to the surface the interest linkages and interest contradictions of those participating in the system, affecting the economic processes on the one hand and the economic policy intended to guide these processes on the other.

As a result of the large amalgamation at the beginning of the 1960's mammoth administrative organizations came into being in the economy even where the "nature" of the economy was opposed to this (light industry, the machine industry). As a result of the amalgamations an enterprise structure developed in our industry which was uniquely centralized even on a world scale. Thereafter the large enterprises created by administrative means became organic, indispensable elements of the economy and occupied key economic positions--to a certain extent independent of whether or not their creation was rational at the time. This made it possible, and still makes it possible, for the enterprise leaders and experts interested in the existence of the large enterprise to realize the interests of their enterprises to the detriment of the other areas of the economy; indeed, for a long time it made it possible for an enterprise to survive its own failure. This possibility was fed by the "quasi-autarkic" structure of the economy, by the fact that in regard to the structural framework the autarkic structure does not resolve but rather increases the openness of the economy as a whole; the openness appears as a form of dependence because the import requirements of the economy increase without creating the conditions for economical export. This leads not only to that pressure directed at replacing with domestic production the import of more and more areas, which in the final analysis makes the process self re-inforcing; if the unsatisfactory export capability and the constant external balance problems can clash only with difficulty with the survival or even growth aspirations of the large enterprises which have been created then there can be no realistic idea of liquidating their production and replacing it with import if their operations are not economical.

One of the great lessons of the 1972 turn and of the period following it is that the aspirations of the higher economic leadership cannot for long be independent of the existing social-economic-political power relationships, and thus it can follow a reform policy, an economic policy, opposed to these power relationships for only a brief time if there are no changes in the institutional system of guidance and if it does not encourage the initiation of processes which aid the birth and development of new economic units which are potentially competitive with the existing ones.

2. The relationships of the period after 1968 were profoundly contrary to the interests of a considerable number of the large enterprises; the existence of a few of them--as is well known--became questionable. This happened despite the fact that the large enterprises occupying key positions in the economy--primarily units of the branch ministries and functional institutions with a branch character and with the aid of the regional party organizations--continued to have the means to avoid uniform regulation, thus increasing the sphere of supports and concessions intended as temporary when the reform began.

Those social-economic units which provided a social-economic-political base for the efforts of those interested in reversing the reform process were primarily the large enterprises and especially those large enterprises in key positions.

In addition to the large enterprises it was primarily the branch ministries which had an interest in the 1972 turn. With the abolishing of the branch ministries in 1980 the large enterprises lost their most significant allies. This is true despite the fact that even since then characteristic signs of the branch view and of ad hoc intervention have appeared in the activity of the Ministry of Industry. It is no longer possible, however, to restore the old relationships in their entirety.

The review of the trust and large enterprise structure, beginning in 1979, was also aimed at and served a weakening of the large enterprise positions, initiated from above. As a result of this a few trusts have been abolished already, or smaller units have been detached--to stand on their own feet.

3. Giving life to the second economy--in the form of new private, small undertakings--is in part a necessity deriving from our present economic situation. The practical goal of this is to avoid a deterioration in the standard of living and to maintain the functional capability of the "first economy." But the recognition of the economic significance of the second economy and the appearance of a demand for new institutional forms are also links in the development of the economic reform or of the ideology pertaining to it. To put it a little more strongly: We could also have reacted to the increase in our economic difficulties and our living standard policy problems with radical and administrative measures to decrease the standard of living--together with other antecedents. On the other hand, it can be recognized already that the second economy, taking on institutional forms, will certainly be competitive with the large enterprises on the labor market, especially in regard to the best experts.

4. One of the most striking phenomena of the period after 1968 was the increase in the variety of goods. The defenselessness of the consumers decreased and there appeared, if in an initial form, a rational consumer mentality which weighed the choices. Once consumer sovereignty becomes organic it cannot be taken back.

The partial liberation of the labor market is very significant also, even considering that due to the "bad" setting of the economic regulators the direction of the manpower flow is not always the most favorable one. The greater than earlier freedom enjoyed by consumers and employees and the knowledge acquired here could create a foundation for ever broader strata of the workers to participate more effectively and more intensively than heretofore in the guidance of production.

I have mentioned those social-economic results and effects of the reform process begun in 1968 which represent conditions more favorable than before for taking new reform steps more significant than before. The slowing of economic growth and the stagnation--in the best case--of the standard of living make further steps a burning necessity.

I see the path of this development in the development of an economic structure with a less bound, pluralistic character, more varied in its institutions than at present, agreeing with the basic ideas in this regard of Laszlo Antal and Laszlo Lengyel. According to the conception of Laszlo Antal the various spheres of the economy would be the following: 1. a capital ownership organization of the holding type; 2. worker self-management; 3. entrepreneurs leasing social property. Laszlo Lengyel distinguishes the following economic players: 1. Individual entrepreneur; 2. Free association of entrepreneurs; 3. Self-administering undertakings; 4. New small undertakings created by decentralizing large enterprises; 5. Developing the large enterprises and trusts into vertical concerns or loose holding associations; and 6. Making public utilities a special type of enterprise.

An analysis of the difference between these two conceptions is not the purpose of this study. What I consider most important is what is common to them--the idea of a less bound economic structure and the coexistence of economic institutions bearing different production relationships.

Although thus far we have been talking about the results of the 1968 reform, or about how the steps taken thus far could be antecedents to the next steps, the desirable economic structure certainly cannot be regarded as a continuation of the process thus far; rather, it represents a qualitative leap as compared to what has gone before. Two basic questions arise in connection with this: The social base of the structural changes and the various paths leading to them; And the real possibilities of a large enterprise counterattack similar to that of 1972.

The Social Base for a Radical Reform of the Economic Structure and Various Paths Leading to It

The interest and activity of the various social groups could be different in a radical reform, depending on whether it takes place before or after the economic difficulties deepen into a social crisis.

What social-economic groups have a direct interest in a radical reform even before the economic difficulties deepen into a social crisis?

1. Those from whom things are always being taken to benefit the social-economic groups representing the foundations of the given structure. Because of this their situation is deteriorating as compared to earlier and/or as compared to the other social-economic groups, or if it is not deteriorating their realized income is less and less proportional to their "production." These include: The relatively profitable enterprises or factory units of uneconomical trusts or large enterprises, if the disadvantage deriving from having income withdrawn is greater than the advantage deriving from appearing in the "colors" of the trust or large enterprise; certain agricultural units; and the small and medium enterprises and that part of the second economy not built into or at the mercy of the large industry structure (an immediate danger threatens their existence; although they are working economically some large enterprise will want to swallow them up, maybe in a different form but in a way not favorable for them, for example in the form of cooperation with them, or they represent a rival to large industry because of the better or more unique quality of their product).

2. That part of the intelligentsia which is limited by the given structure in the realization of its unique values, abilities or expertise.

3. In a way much more contradictory as compared to those listed above, and depending on the power relationships of the moment, there could be a change in the attitude toward a radical reform on the part of those large enterprises which continued to develop after 1968, so that their leaders (even) might have faith that even after another reform they could preserve the stability of their enterprises, that another reform might help rather than hold back their development.

The members of these social-economic units have a way even individually, more or less, to change their situation within the social-economic structure; on the other hand they have no independent political institutional system and do not constitute a united social force which could force radical reforms in the form of a movement coming from below. At the same time, this does not rule out that they are already trying to force open the given frameworks and might become active participants in a radical reform process already begun.

The economic difficulties could be transformed into significant social tension if the situation of a large part of the workers in the large enterprises deteriorated in an absolute sense. This could happen if it was not possible to regroup more income to the benefit of the large enterprises as a result of stagnation or decline in other areas of the economy. In this situation the social base for starting the reform process would include the workers in large industry, which could change their situation only by a transformation of the economic structure and by creating independent institutions to realize their interests, and could not do so individually.

The two paths for starting the reform process differ not only in regard to the process but also in regard to their results, and lead to economic structures differing from one another. A reform started from above would favor a reform of the large enterprise structure and a swift development of the private small undertaking sphere. In my opinion, forms of worker self-management which really worked could come into being primarily via initiatives coming from below. At the same time, it is not inconceivable that the seeds of worker self-management might appear in the process of a reform started from above also. But it is a condition for their permanent existence that new, local institutions realizing worker interests be permitted to come into being, institutions which express not only economic interests, or short-range economic interests. The coming into being of such institutions is also necessary for other social-economic units if the process of reform, however it comes into being, is not to be reversible--under "favorable" conditions.

Is Another Large Enterprise Counterattack Possible?

The question of the extent to which one could avoid, after a radical reform, a large enterprise counterattack similar to that of 1972 is also not independent of when and by what path the reform occurs. It is difficult to answer this question even if we take the present situation as the base--thus presuming that the reform is realized "tomorrow." Still it is worth while to make a brief

comparison between the period surrounding the 1972 counterattack and the present situation. This part of my work is based on certain partial results of a larger research project under way with the title "Our Large Enterprises and Change in the Economic Mechanism."

1. The 1972 Turn

There was not, in connection with the 1968 reform, any change in the relationship of the party and state apparatus or in the institutional system of guidance--its branch character--which provided an institutional guarantee of the status and stability won by the large enterprises. In practice there was no decentralization of developmental decision making. Despite the operation of these "built-in stabilizers" there were serious profitability problems for a substantial number of large enterprises in the first years of the reform. The rate of growth of industrial production slowed between 1968 and 1971, while the general growth of the economy accelerated. Parallel with the slowing of industrial growth unused capacity increased, primarily in the large enterprises. Sales of the large enterprises which came to be designated in 1972 increased less between 1968 and 1972 than the sales of those not designated. The frontal counterattack by the large enterprises began in 1971.

The November 1972 situation of the Central Committee of the MSZMP called attention to the situation of the large enterprises when it said that in the interest of improving the efficiency of the national economy the economic guidance organs would in the future pay special attention to the activity of the largest 40-50 state industrial enterprises producing a significant part of the industrial production of the country.

In the course of our interview a worker at one of our functional institutions spoke as follows about this period: "The large enterprises came into the center of political and economic interest in 1971-1972, primarily in relation to the small and medium enterprises. At this time the small enterprises were developing more quickly, but the burdens of this--according to large enterprise opinion--were being born by the large enterprises. According to public opinion the direction of manpower flow was toward the small enterprises, toward the auxiliary factories of the producer cooperatives; the possibilities for wage increases were greater here and the small enterprises derived a great advantage from the fact that they were burdened with smaller administrative costs. The large enterprises regularly complained about the small enterprises and auxiliary plants of producer cooperatives. Looking at it today this was a mood which had been whipped up a bit artificially. 'At what forums did these questions come up?' At every possible forum--Central Committee meetings, chamber conferences, in the professional press. For example, the leadership of one of our large enterprises exposed the fact that a producer cooperative auxiliary plant was producing the same products, under worse conditions, but with greater profitability. The other reason for bringing it up is connected with the development of economic planning. The disadvantages of planning from above downward were becoming increasingly obvious. The trend at this time was to build the plan upward from below, and a great role in this fell to the large enterprises which define the Hungarian economy. As a starting point it had to be determined which enterprises should form the sphere to be included in planning, and watched centrally. There

were proposals and debates. In a series of conferences held in the National Planning Office it was finally determined that they would have to deal with 80 enterprises. The 80 finally became 50, as they still wanted it to be a round number. 'And how did the 80 become 50?' By excluding the foreign trade, domestic trade and capital equipment marketing enterprises. 'What criteria did they take into consideration in the selection?' The most important viewpoint was branch-regional proportionality. The branches and the megyes tried to get their enterprises in the sphere of those chosen at least in proportion to their economic importance. Another consideration was which enterprise had a Central Committee member as director. 'So the National Planning Office finally decided which would be the 80, or the 50. But where did the original idea come from?' The party center. 'And did the large enterprises exercise some sort of pressure in this matter?' This is a rather delicate question, but, yes, they did. Primarily those who were Central Committee members. For example, one of them did everything to present the problems of his own enterprise as the general problem of the large enterprises. He said, for example, that he was at the mercy of the small enterprises working on projects for him, and even cracked that he had little casting capacity. Presenting problems as large enterprise problems was a general phenomenon in the period beginning in 1972. This is how they were brought up in city district party committees also."

Another worker at this same institution confirmed this latter information and even disclosed further interdependencies: "'On the occasion of an earlier interview you mentioned that the leaders of the most important large enterprises received significant aid in this period from the party center. How did this happen?' Yeh, the leader of every significant large enterprise would run to the party center, to the acquaintance he knew best. It is quite certain that they talked this over beforehand and agreed with one another. Then the center would call a plenum, to which they would invite the people from the functional apparatus as well as the leaders of the large enterprise. The enterprise directors would leave reassured." The functional guiding apparatus--the National Planning Office, the Ministry of Finance, the Ministry of Labor--did not carry out the selection with a great ovation. To quote one of the leaders of this work: "The selection was made under pressure coming from 'the highest' circles. We tried to select large enterprises which had to be paid attention to anyway, the large enterprises in trouble. Other enterprises were included because they controlled an entire branch of industry. We tried to carry out the selection in such a way as to do the least possible damage."

The documents preparing for the designation indicated in advance the possibility of a unique judgment of problems arising at large enterprises, naturally only in those cases where national economic interests made this necessary.

As a result of the changes following the 1972 turn the regrouping of income to the benefit of the large enterprises, flowing through ad hoc channels, picked up, especially in connection with preparation of the Fifth 5-Year Plan and thereafter.

Thus the first conflict between large enterprise interests and the conditions created by the 1968 reform was resolved to the benefit of the large enterprises. Naturally, changing the relationships and putting a stop to the process of development cannot be attributed solely to the aspirations of those interested

in this and their ability to realize their interests. The following factors (without trying to be complete) also catalyzed the counterattack and were further causes of the halt:

- a. A consistent carrying through of decentralization would have made clumsy cooperations with the other CEMA countries, still operating basically in a plan directive system. "From our point of view it is an important act that in the past decade we have not succeeded unambiguously in getting them to accept the chief trends of the 1968 attempts.... The 'international mechanism'--in accordance with the law of the 'bottleneck'--is always fundamentally determined by those of the cooperating states with the more rigid internal guidance system."
- b. Growth accelerated, and the entire economic system became more open and more sensitive. This brought to the surface the balance problems of the economy deriving from structural causes. For example, the backwardness of the infrastructure and background industry, the drive to overheat investment, the external balance deficit, etc.
- c. The income differentiation which became more open with the reform caused broader social tensions also; however, these were frequently stirred up artificially also. (Comparing the incomes of large factory workers and those migrating to producer cooperative auxiliary plants and the allegation, later refuted, according to which the wages of those working at the large enterprises were a good bit lower than the wages of those working in other areas of the economy.)

In a paradoxical way the acceleration of growth provided an economic background for the process of reversal--there was something to regroup to the benefit of the large enterprises which had gotten into trouble.

2. The Present Situation of the Large Enterprises

The large enterprise positions which have been regained are not the same as the old ones. The reasons for this derive in part from the general situation of the economy and from the situation of the large enterprises; they derive in part from a change in the institutional system which mediates large enterprise interests.

- a. The general growth of the economy is slowing at present--partly as a result of satisfying the support demands of the large enterprise sphere which increased especially from 1972--but together with this the sphere of goods which can be redistributed via the administrative market is narrowing also. The decline in the resources which can be drawn from outside, from other areas of the economy, strengthens the elements of competition rather than the elements of solidarity in the relationship of the large enterprises to one another.

To sum up and take further what has been said, contrary to my earlier expectations--on the basis of those factors which I was able to examine up to that time--the economic situation of the large enterprises is not significantly differentiated as compared to the 1972 turn; the chief characteristic of the period after 1972 was not differentiation but rather a reordering of positions. This reordering is explained only in part by the central redistribution of a

part of the developmental resources or the differentiated central participation in large enterprise developmental actions. The connection between an expansion of capitalist export, one of the chief goals of the Fifth 5-Year Plan, and the change in the profitability situation was negative rather than positive. Discovering the causes of the reordering requires a more profound analysis than has been made thus far.

One director general, who was a key figure of the large enterprise counterattack of 1972 and even appeared in a number of public forums as a "large enterprise ideologist," took a stand in 1979 for a narrowing of the individual discrimination system and for a tightening up of the general regulator system. Naturally, tactical elements play a role in this and similar behavior also. As the general economic conditions become more difficult and as the supplementary incomes which can be siphoned off via the administrative market narrow down it is a better solution to tacitly accept the narrowing of the general frameworks, and then for each to follow his own "way out" individually. The most recent experiences already indicate that the guiding principles pertaining to limits on the system of ad hoc discrimination cannot be carried out with the planned severity. The need for tactical action and the choice of just this tactic already indicate--and my more recent observations support this--that the "good ones" will not take a stand for the "bad ones" for the sake of ideology, as long as they do not feel that the conditions for their existence are endangered, but rather view them as rivals. With a narrowing of the resources which can be brought in from without--the theoretical effect of which would be for those large enterprises to stabilize and/or develop more quickly which can perform profitably even without supports or with a reduction of them--this further reduces the possibility or chances of another large enterprise counterattack, at least in the near future. But it is not certain that this "near future" will last long.

The most important goals of the Sixth 5-Year Plan--a dynamic expansion of capitalist export and a reduction in investments and capitalist import--are not new ones, compared to the chief goals of the Fifth 5-Year Plan. Nor is the conflict between the goals new, although it is much sharper and can be felt more by the large enterprises, since the goals are broken down much more to the level of individual enterprises than before.

The enterprises must increase their capitalist export much more than ever before in a period when, according to the plan, the investment level remains unchanged, and even decreases in the processing industry. For a large number of our designated enterprises the need to increase capitalist export is no longer simply an expectation formulated by state institutions; because of the reduction in investment the investment demand of the internal market is stagnating, and this affects very sensitively the large enterprises producing investment goods. Primarily those which carried out significant developments in the recent past (the Hungarian Cable Works, the Lang Machine Factory, etc.). They are trying to protect themselves by orienting toward the capitalist market even the capacity originally intended to satisfy domestic needs. But this cannot be truly profitable export--recognizing the difference between the quality expectations of the two markets--especially since the money needed to carry out minor investments to improve quality is drying up also, and since there are also limits on the import of capitalist parts, so important from the viewpoint of improving quality. On

the other hand, the competitive price system--although the system of ad hoc intervention filtering out its effects is still in operation--will transmit indirectly to domestic sales the profitability achieved on the capitalist market.

What is true today of the large enterprises producing investment goods may be true tomorrow of the other large enterprises also. Even now there is not, on the domestic market, that significant over-demand for the products of the large enterprises which there was in 1972 or 1976. The effects of the narrowing of the domestic market may slowly penetrate the sphere of the large enterprises not producing investment goods also. This may affect them very seriously also, because they have never been so indebted as at present.

Sooner or later the slowing of growth and the narrowing of the domestic market may reach even those which are still the "good ones." If there is no radical reform by then or if there are no institutional guarantees of an existing reform then the elements of solidarity in the relations of the large enterprises to one another may come to the surface again. It is worthy of note that even today they regard the spread of private and small undertaking forms as "anti-large enterprise," justly fearing that they will "entice away" from them just their best experts.

b. From the viewpoint of the possibility of realizing large enterprise interests the abolishing of the branch ministries and the creation of the Ministry of Industry was a very important change; this modification of the institutional system of economic guidance was unfavorable for the large enterprises. With the disappearance of the branch ministries they lost their chief allies--just in the period which was most important from the viewpoint of those on the administrative market, in the period of the preparation of a new 5-year plan.

In the spring of 1981 one of the deputy chiefs of a large Budapest enterprise said: "The old links still exist in my area, but the situation in general has changed. The Ministry of Industry does not have a say like the Ministry of Metallurgy and the Machine Industry (KGM) did. This is very bad in our present situation. We were accustomed to winning the fight for credits with the KGM. The KGM helped in other ways also." Another leading cadre of the enterprise expressed himself similarly: "We had very good contact with the branch ministry, while it lasted. There was no problem with the Ministry of Industry, because for the time being it had not been formed in practice. We know some of the cadres personally.... Now we have problems asking for credit, but we do not know who in the ministry can help. Someone came here the other day, a rather low level cadre, and we told him our problems. We shall see what he can do."

Despite the fact, or perhaps because of the fact, that the current enterprise 5-year plans were prepared under substantially more difficult conditions than before, there is now an alternative formulation in the plans of goals and market conditions, missing earlier; the level of planning work has risen. It is another question that, finally, the plans did not fit in too well with the prescriptions of the national economic plan.

The period following the dissolution of the old power relationships and system of personal contacts is a transitional one; it will last until the development

of a new system, partly preserving elements of the old and partly woven of new strands. There are already signs of this.

According to one working at the Ministry of Industry: "In principle the creation of the Ministry of Industry meant that the enterprises got greater freedom. At the moment it carries out, with three times fewer people, those tasks which three ministries carried out earlier. This won't work. In principle we were supposed to shift in the direction of conceptional work; but life does not really permit a reduction in operational work. We cannot say that it is not our sphere, because they do not tolerate this in the party committees. This is like not having the Price Office deal with foreign trade on a day to day basis. Previously the National Planning Office was in a comfortable situation, because the branch ministries maintained contact with the enterprises. And our socialist partners have gotten used to there being branch ministries to which they can turn in natural questions. To whom do they turn now if, for example, some large piece of equipment does not go out? We must admit that this is the situation.... This work must be done too, and you have to like it. Of course, we cannot deal with the problems of individual enterprises as deeply as before."

In addition to the appearance of elements of the earlier relationships, some of the functions of the branch ministries are being taken over by the National Planning Office, the Price Office and the regional party organizations. But the old relationships cannot be restored. The question of whether the new allies of the large enterprises, or the old allies appearing as new ones, will be as "effective" as the old ones depends on the objective situation of the large enterprises, or on the conditions affecting this situation. If, despite the tendencies opposed to it, conditions for a new large enterprise counterattack do arise then the Ministry of Industry will represent large enterprise interests more effectively than its predecessors. The already quoted worker at the Ministry of Industry alludes to this: "Our opinion will have more weight than that of the branch ministries earlier. They had a lot of matters unresolved with one another, and this became the source of a good bit of tension. The functional organs exploited this, often acting as arbitrators. Now this is not possible, because we will settle disputed matters in house, and take a united stand toward those outside. There have already been a number of things in which we were able to help the enterprises."

Thus, if the activity of the Ministry of Industry shifts strongly in the direction of representing large enterprise interests it will be able to aid the realization of these interests with greater respect and strength than the former branch ministries, which could be divided by the functional institutions.

Summary and Conclusions

The "history" of the Eastern European countries since 1968 has justified the steps we took in the direction of social and economic democratization. But it is just as important a lesson that the paths of economic and political democracy are inseparable, and without suitable institutional guarantees the process of economic democratization can be reversed.

Despite the fact that every step taken in the direction of political and economic democracy decreases the probability of a lasting restoration process,

the increase in the economic difficulties makes necessary a reform step more radical than the earlier one. This step will lead objectively toward an economic structure more varied in its institutions--the singleness (large enterprise character) of the economic institutional system is already dissolving.

The fundamental question is, due to what social movements will the radical reform come into being, what new forms will be created and what relationships of subordination, superordination or coordination will the various forms--holding, worker self-management, small undertaking, etc.--have to one another. The answer depends on whether this reform comes before or after the transformation of economic tensions into significant social tension, or in what stage of the social tensions it comes. A similarly important factor is whether the initiatives coming from below--for example, the already existing elementary forms of worker self-management--can preserve their identity, whether they can create an institutional system expressing their differentiated interests, or when they can create this--in what stage of the growth of their social significance.

Compared to the period around 1972 the danger of a large enterprise counterattack is less threatening to a radical reform coming into being in the near future. The decrease in the supplementary incomes which can be siphoned off through the administrative market, the reordering of the large enterprise positions, the improvement in the situation of a few, but vitally important, enterprises and the faith in stability--although partly of a tactical character and thus partly in quotation marks--will strengthen the elements of competition rather than the elements of solidarity in their contacts. This tendency is further strengthened by the fact that the decrease in incomes flowing through ad hoc channels in principle further differentiates the large enterprises, according to their actual profitability. The possibility and chances of a counterattack are reduced further by the abolishing of the branch ministries and thus by the dissolution of the earlier power relationships and personal contacts system.

But as a result of the slowing of economic growth, the hardening of external marketing restrictions and the narrowing of the domestic market the crisis phenomena which are still isolated could spread throughout the large enterprise sphere, endangering the existence of even those which are still the "good ones." This process could be accelerated by the development of the private, small entrepreneur sphere and their competition--appearing initially primarily on the manpower market. In this situation it may again become the vital interest of the great majority of large enterprises to quickly and powerfully tap the economic areas outside the large enterprises, in a way which violates the general regulators. If the reform does not take place before this happens and/or if institutional guarantees protecting the achievements of the reform are not created then two events are possible (which could follow one after another in order):

1. By bringing in international credits and by regrouping incomes produced outside the large enterprises it may be possible to avoid a significant decrease in the income of those working at the large enterprises. Then we may see the activity of those influential large enterprise leaders in key positions who are not only inclined but, supported by the economic strength of their enterprises and by their political importance, are also strong enough to again formulate and represent

the large enterprise ideology. In this case, exercising pressure on the administrative market--and expanding the system of ad hoc discriminations--a new, but not lasting, wave of growth may begin, accompanied by relative investment abundance and momentarily easing the marketing problems.

2. If a significant decrease in the standard of living of large enterprise workers occupying key positions cannot be avoided with outside credits and siphoning off incomes outside the large enterprises then the large enterprise ideology will lose its already unstable social base and reform demands will be formulated as the conscious demand of the large industry workers also.

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ACADEMICIAN VIEWS ECONOMIC POLICY IN PERSPECTIVE

Budapest NEPSZABADSAG in Hungarian 1 June 82 p 4

[Interview with Robert Hoch by Denes Kovacs: "The Dilemmas of Exploring Possibilities" Date and Place not specified]

[Text] Our economic development has slowed down in recent years. Because of the worsening of the world economic situation, our economic experts have been working mainly on solving day-to-day problems and restoring economic balance. Is it now time, in such circumstances, to deal with working out our long-range economic plans? We asked this of Robert Hoch, doctor of economics, deputy director of the MTA [Hungarian Academy of Sciences] Institute of Economics.

[Answer] It is not only possible but necessary for us to deal with long-range plans, and not just because the conceptual formulation of our intermediate-range plans is only possible on the basis of and in harmony with a long-range plan, but also because we must now think about and act according to how we can turn from the present slow rate of growth to a new course of growth that will make possible an accelerated increase in national wealth and standard of living without disrupting the internal and external balance of the economy. Of course this is only possible, as Ferenc Havasi expressed recently at the economic itinerant congress, if we can make use of the years of forced temporary slow growth to create the conditions for later dynamic progress.

[Question] This thought corresponds to the concept of our present Five-Year Plan, which leaves open our possibilities of decision-making for the second half of the 1980's. The plan expresses the requirement that for the present we must conduct a policy of short-range accommodation. Is it possible to expect a reasonable long-range plan from Hungarian economic policy?

[Answer] It is true that the conditions that have evolved force us to accept an intermediate-range concept that regards the restoration of the foreign-trade balance and repayment of our debts as the basic task and subordinate to that all other tasks, including consequently maintaining the standard of living already achieved. But a period of time like this is necessary to give economic policy a breathing space and time to work out a strategy that will be appropriate to stimulate growth. But slow growth can only be a transitory phenomenon in a socialist economy, nor would society accept a long period of stagnation, and we know that we are capable of much more.

In order to determine our long-range goals we must re-evaluate our external conditions, our internal resources, our social demands, and the scope and potential of a socialist society. Time is needed for all of this, and we must start on this difficult task now.

[Question] Still, many are of the opinion that in the present uncertain world-economic conditions and in a world-political situation full of conflicts the proper conditions for working out a long-range strategy do not exist.

[Answer] That kind of opinion comes from the idea that our possibilities for development are pre-determined by external conditions, which decide what we can do in the future. But this is an erroneous standpoint, which under-estimates the possibilities for planned, conscious development of internal conditions. Just as earlier we were unable to take advantage of favorable foreign-policy and external economic conditions unless we corrected our own economic mechanism, so in a difficult situation as well the extent to which we can help ourselves depends on how and to what extent we can further develop our system of direction and whether we can work out a good long-range plan concept. The increased flexibility and adaptability that our economy now needs can only be achieved through continual and systematic improvement in internal conditions, and without that we will not be able to get control over our difficulties. But this effort is connected with searching for a concept and creating an appropriate strategy within the framework of long-range planning.

[Question] What kind of development strategy can and should be worked out to move the economy out of its stagnant situation? What requirements must be placed on such a plan concept?

[Answer] The new course of growth must first of all ensure a change from "extensive" to "intensive" growth. It can be supposed that growth will really be slower than at the end of the 1960's at least for a good many years. But the essence of the new course of growth is not what percent annual growth we can measure statistically. It is most important that through a significant transformation of the structure of the economy we guarantee growth such that it will make possible balanced, supported, and flexible adaptation to both internal and external conditions in the long term as well. For this it is necessary to have economic operation in a broad sense, the efficient utilization of human and natural resources, and an emphasis on the qualitative features of the economy. The concept of development must harmonize with the requirements of balance in the national economy, and this involves not demanding too many imports; on the other hand it must be directed toward an economic development that will increase the capability of the economy to export and increase the country's foreign-currency income. Another indispensable requirement is that in turning to the new course of growth the acceleration of economic growth not postpone increasing the standard of living and achievement of social goals to the distant future. Not only the rate of growth but also its direction are of fundamental importance for the living-standard policy of the whole country.

[Question] In determining principles it is obviously much more difficult to work out a concrete economic strategy that satisfies all these requirements. Is a long-range concept that satisfies every requirement even possible?

[Answer] Naturally there is not and cannot be such a thing. But several partial solutions can be proposed, whose favorable and unfavorable features will then have to be weighed. One such long-range concept can be the development of the infrastructure, in a broader than usual sense. We include in the infrastructure--among other things--the supply of energy directly to production and the population, transportation, communication, housing, health matters, education, research, technological development, etc.

[Question] What can cause a marked growth of the infrastructure in coming decades?

[Answer] It is now a widely accepted standpoint that one critical condition and stimulating factor for higher economic development is a well-functioning network in the infrastructure. We also know that in our country backwardness in the infrastructure is an obstacle to both development of production and increasing the standard of living. You see, the economy can do nothing but operate with low efficiency if, for example, energy supply is interrupted, if transportation is over-loaded and difficult, if highways are poor, railroads are slow, communication is late, the telephone system is inadequate, if there is insufficient financial support for research and technological development and insufficient connection between it and production, etc. It does not need to be demonstrated that social problems are already being caused by backwardness in housing construction and the supply of utilities, which directly serve standards of living and socialist transformation of the way of life, and we also know--it has been expressed in party and state decisions--that health services, vocational training, and public education are all in need of urgent development.

Whereas during a period of extensive development it is acceptable that the infrastructure lag slightly behind production, it is a condition of intensive development that the infrastructure precede development of production as much as possible, or at least be in harmony with it. A critical factor for development is the "cultured worker," in a broad sense, who is receptive to modern technology and able to apply it, whose way of life and conduct correspond to socialist norms and requirements. All of this, however, requires cultured living and working conditions, appropriate housing, good transportation, favorable shopping conditions, etc.

[Question] How can development of the infrastructure influence balance in the national economy?

[Answer] A favorable feature of this concept is that it requires much less import than development of either productive or manufacturing industry. Development of the construction industry, the highway network, the water system, health, or education, for example, require relatively little import. It is true that the influence of the acquisition of foreign currency is extremely indirect, and it is just as much as part of increasing export

activity on the part of industry as it is an indispensable condition for a high-level infrastructure network. Development of tourism also increases foreign-currency income directly. The realization of this concept can have a good effect on the external balance of the economy, both short- and long-range.

A drawback of this strategy, on the other hand, is that it requires much capital. And it must also be seen that not all of the burden of a significant development of the infrastructure can be placed on the budget. For this reason the enterprises and cooperatives that use them will probably have to participate in the financing of infrastructure investments that directly affect production. And the implementation of this idea requires a much greater use than before of the incomes of the population in the financing of the establishment of operation of the infrastructure network that directly affects the standard of living. The acceptance and realization of such a strategy thus requires a decision on many questions and a many-sided balancing of political and economic influences.

In conclusion I must emphasize again that development of the infrastructure, as a long-range concept, cannot mean any kind of exclusiveness in long-range economic development. There is a need for different kinds of strategies, the elements of which are closely connected with and pre-suppose one another. The essence and science even the art of planning however, is nothing more than a decision on ordering and prioritizing the various simultaneous processes. But such a decision will only be possible if during these years of slow growth we create the conditions for faster economic development.

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OVERVIEW OF TRANSPORT SYSTEM FOR 1982 PUBLISHED

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[Article by Kazimierz Ratajczak: "Transport in 1982--Tasks, Means, New Principles of Management"]

[Text] The year 1982 is the year which is to provide the conditions for surmounting the economic crisis and introducing the economic reform.

The new principles of activity for transport enterprises were defined in the Decree No 243 of 30 November of the Council of Ministers Concerning the Principles of Operation of State Enterprises in 1982.

In addition, the legal basis for the management of transport enterprises is the Decree of 25 September 1981 on State Enterprises. The provisions of that decree (Article 6) do not apply to enterprises of the PKP [Polish State Railroads] and Lot Polish Airlines, save for the provisions governing the register of state enterprises.

The new principles of management for these enterprises will be specified in separate decrees whose drafts, prepared by the Government during the second quarter of 1982, will be submitted for voting upon to the Sejm of the Polish People's Republic.

According to the assumptions underlying the aforesaid drafts, the PKP Enterprise will base its activities on its own plan which will be meshed with the goals of the national economic plan by applying to it the provisions of the decrees on: planning and statistical reporting; financing and taxing; formation and utilization of funds; and determination of prices.

Within the PKP Enterprise, as an enterprise of special and strategic importance to the national economy, the planning system will comprise 10-year, 5-year, and yearly periods. The plans prepared by the PKP Enterprise will be designed to adapt its development to the transport needs of society and the national economy. The plans should also contain the proper ratios between tasks to employment and the material resources needed to fulfill them.

The social nature of the planning process, in its turn, will be reflected in the consideration of social needs and priorities when determining the

practical plan tasks such as: transport tasks, the quality of services rendered, the timeliness of freight deliveries, etc., as well as the observance of procedural rules assuring the participation of the work force in the process of the preparation and monitoring of plan fulfillment.

In independently preparing its own plans, the PKP Enterprise will guide itself by:

- information ensuing from the premises of central and local plans;
- own studies of demand for domestic and international railroad traffic;
- principles of cost effectiveness;
- standards and economic parameters specified in the decrees and ordinances of the Council of Ministers;
- agreements concluded with suppliers, consumers, banks, etc.

The (long-range) 10-year plans for the development of the railroads, prepared centrally at the level of the PKP General Directorate, will specify the transport needs, the directions of the expansion and modernization of the technical facilities of the railroads, the repair and maintenance facilities, and the assumptions with regard to technical, economic, and organizational progress, as well as to employment and cadre policy. It is expected that units subordinate to the PKP General Directorate will take part in preparing these plans. The five-year plans will elaborate the assumptions adopted in the 10-year plans, and their preparation will be preceded by studies of the feasibility of revising transport fares. Railroad directorates are expected to take part in preparing these plans.

The yearly plans, which elaborate the assumptions of the five-year plan for a particular year from the standpoint of the activities of the railroads as a whole, will be prepared by the PKP General Directorate on allowing for proposals by the work force.

Segments of the approved five-year and yearly plans will be assigned by the PKP General Directorate to the railroad directorates. These segments will specify the obligatory tasks as regards investments and repairs of rolling stock and railroadbed performed with own resources, as well as production tasks. In addition, the segments will specify the resources for implementing tasks for an obligatory nature, such as: the wage fund, fuel and power consumption, consumption of materials, and financial outlays.

On the basis of the assigned segments of the plan, the railroad directorates will prepare economic-financial plans for their own districts and transmit to their subordinate units the sub-segments pertaining to their plans and specifying the quantitative and qualitative tasks as well as material and technological resources, data on employment, the wage fund, and cost limits.

Transport Tasks for 1982 Freight Transport

It is estimated that the 1981 freight transport plan was fulfilled 83 percent, of which standard-gauge railroads fulfilled about 93 percent and automotive transport about 80 percent. Compared with 1980, overall freight transport was about 27 percent lower, of which transport by rail was about 16 percent lower.

Table 1. Freight Transport (in millions of tons/millions of ton-kilometers)

Subject	1981 Fulfillment	1982 Assumptions	1982/1981
Railroad transport	<u>409.2</u> 110,022	<u>427</u> 117,760	<u>106.5</u> 107.2
Of which: Standard-gauge railroads	<u>401.6</u> 109,835	<u>420</u> 117,600	<u>106.6</u> 107.3
Narrow-gauge	<u>7.6</u> 187	<u>7</u> 160	<u>92.1</u> 85.6
Automotive transport	<u>1,552.</u> 36,075	<u>1,484</u> 30,950	<u>95.6</u> 85.8
Including: PKS [State Motor Transport]	<u>157.0</u> 8,505	<u>165</u> 8,300	<u>105.1</u> 97.6
Inland water transport	<u>17.0</u> 1,913	<u>18.0</u> 1,940	<u>105.9</u> 101.4
Of which: Inland waterway transport of the Ministry of Transportation	<u>14.0</u> 1,794	<u>15.0</u> 1,800	<u>107.1</u> 100.3

In 1982 the level of total transport demand will not rise owing to the stabilization of the volume of industrial and agricultural output and investment construction. Only railroad transport will increase, chiefly owing to the increase in the extraction of hard coal.

In view of the need for the conservation of fuel and energy and their consumption per unit of transport work, it will be necessary to give priority to railroad transport and, within it, to electric locomotives. The need for fuel conservation will require maintaining steam locomotives for switching operations. The share of diesel locomotives in railroad traffic will be limited.

Freight transport by standard-gauge railroads should reach about 420 million tons in 1982, or 5 percent more than in 1981.

The extensive decline in automotive transport that took place in 1981 should reach a plateau owing to the decrease in the transport demand and the retirement of the fuel-intensive part of the motor vehicle fleet. Overall automotive freight transport should be about 1.5 billion tons, which will be at the same level as in 1981. But the volume of public transport should increase 4.4 percent. This means that freight transport by PKS will increase from 158 million tons in 1981 to 165 million in 1982.

Passenger Transport

The 1981 passenger transport plan was fulfilled both in automotive and in railroad transport.

In view of the drastic decline in the technical readiness of busses owing to the shortage of spare parts, tires, and storage batteries, the number of runs of the motor vehicle fleet has markedly decreased within PKS throughout 1981. This unfavorable operating situation forced PKS to curtail and eliminate many routes, resulting in a deterioration of traveling conditions for motor coach passengers.

In 1982 PKS passenger bus traffic is expected to diminish owing to the limited deliveries of busses. In view of this, the railroads must maintain at the proper level the available transit capacity for passenger services, which requires assuring in 1982 adequate deliveries of new passenger cars.

The anticipated 1981 fulfillment of the 1982 plan of passenger and freight transport are illustrated in Tables 1 and 2.

Table 2. Passenger transport, in millions of passengers/millions of passenger-km

Subject	1981 Fulfillment	1982 Fulfillment	1982/1981
Railroad transport	<u>1,113.6</u> 48,238.0	<u>1,115</u> 48,450	<u>100.1</u> 100.4
Of which: Standard-gauge railroads	<u>1,107.0</u> 48,160.8	<u>1,110</u> 48,400	<u>100.3</u> 100.5
Automotive transport	<u>2,325.5</u> 48,221.0	<u>2,262</u> 46,200	<u>97.3</u> 95.8
Of which: PKS	<u>2,310.5</u> 47,815.6	<u>2,250</u> 45,900	<u>97.4</u> 96.0

Deliveries of Transport Equipment

In view of the current transport situation and the need to replace worn-out transport equipment, the deliveries of rolling stock to the railroads in 1982 should be at the level of approximately 3,400 freightcars, 300 passenger cars,

100 electric locomotives, 60 electric locomotive units, and 10 diesel locomotives. These deliveries will be smaller than in 1981. The continued shortage of boxcars for PKP is disturbing.

Considering the necessity of retiring worn-out vehicles, it is estimated that motor transport should be altogether provided with 92,000 tons of new truck load capacity. This means that deliveries will be 47 percent smaller than in 1981. Bus deliveries should be maintained at the level of about 5,900 units.

Overhauls of Rail Roadbed and Public Roads

The plan for the overhauls of rail roadbed in 1982 provides for continuous replacement of 2,300 km of rails, 3.7 million crossties, and 1.6 million cu m of track bed. This means that the overhauls of rail roadbed will be at the same level as in 1981.

For 1982 the central budget allots about 16.4 million [sic] zlotys for the maintenance of public roads, and the local budgets allot additionally about 7 billion zlotys, i.e., the level of allotted funds will be the same as actually used in 1981.

Repairs of Transport Equipment

There also occur difficulties as regards the repair of railroad rolling stock owing to the limited capacity of the pertinent repair plants. Steam-locomotive repair needs will be met 64.3 percent (compared with 69.4 percent in 1981); and electric-locomotive needs, 78.6 percent (74.8 percent in 1981). As for the needs for repairing electric-locomotive units, they will be met 74.5 percent (67.1 percent in 1981); the needs for repairing diesel locomotives, 70.1 percent (63.7 percent in 1981); railroad passenger cars, 93.3 percent (81.0 percent in 1981); and freightcars, 64.7 percent (72.9 percent in 1981).

The program for meeting the needs for repairing track vehicles in 1982 at the railroad rolling stock repair plants shows that the following proportions of different vehicle categories will not be accepted for repair: 21.4 percent of electric locomotives, 30 percent of diesel locomotives, 35.7 percent of steam locomotives, 35.3 percent of freightcars, and 25.5 percent of electric locomotive units.

The increase in repair needs ensues chiefly from the growth of the rolling stock and its intensive operation.

The chief cause of the current problems with rolling stock repair is the under-investment in repair facilities in relation to the needs ensuing from the ongoing process of the modernization of traction and changes in the state of the railroad rolling stock pool. Large numbers of electric locomotives and locomotive units as well as diesel locomotives, especially the high-capacity ones, have been introduced into use, as have been four- and multi-axle freightcars whose maintenance and repair require qualitatively new repair facilities.

In addition, the difficulties encountered in meeting the growing demand result in considerable wear and tear of rolling stock owing to customers who do not competently operate mechanical facilities for the unloading of freightcars.

Damage to freightcars is also caused during switching-yard operations owing to the inadequate availability of track brakes on switching years along with the undermanning of switching crews.

The repair of worn and damaged rolling stock requires extremely high labor expenditures which, in view of the current underemployment (there is a shortage of about 5,000 railroaders) and shortages of materials and parts, makes it impossible to carry out any large number of repairs at railroad rolling stock repair plants.

Investments

For 1982 investment outlays within the Ministry of Transportation will total about 16 billion zlotys or about 67 percent of the 1981 level. Of this amount, 2.8 billion will be spent on investment construction, or about 58 percent of the 1981 level.

Of the 16 billion zlotys, 5.5 billion will be allotted for the acquisition of railroad rolling stock; 4.5 billion, for the acquisition of motor vehicles for assembling; 2.2 billion, on construction and installation operations; and about 325 million zlotys on other outlays.

A total of 7.7 billion is allotted to the PKP Enterprise; of which 1.1 billion zlotys for investment construction. These figures amount to 60 and 42 percent, respectively, of their 1981 levels.

For 1982 the Ministry of Transportation allots more than 1 billion zlotys in outlays for the modernization and expansion of the technical facilities of transport plus 361 million zlotys for the electrification of railroad lines.

The funds allotted for the modernization and expansion of the technical facilities of transport include, with respect to the railroads: the construction of the Gdynia Cisowa Parking Yard; the construction of a motor-car shop together with a railroad car inspection station in Jaslo; the adaptation of the Lodz Olechow Locomotive Shop; the construction of station and expansion of boiler shop and liquid-waste pump facility in Ostroleka; the construction of a PKP automotive depot in Warsaw; the adaptation of the steam locomotive shop to a motor-car shop in Tarnowskie Gory; the modernization of the Grodzisk Radomska Locomotive Shop; the construction of the Idzikowice Locomotive Shop; the construction of a railroad car shop in the Central Port of Szczecin; the construction of a railroad car shop in Losien; and the construction of a ZZMT [expansion unknown] warehouse.

Katowice-Piotrowice

Within the PKS motor transport system, among other things, automotive depots will be built in Losice, Bytow, Czechowice, Grodzisk Mazowiecki, Katowice,

Konin, Kwidzyn, and Lomza, along with the construction of a complex of PKS facilities in Olsztyn and the expansion of the depot in Szczecin.

As regards investments in railroad rolling stock repair plants (ZNTK), the electric power and heat generating facility at the Ostrow Wielkopolski ZNTK will be expanded; the KZKS and UD in Starosielice will be expanded and modernized, the mechanical department bay will be constructed at the tool shop of the Minsk Mazowiecki ZNTK; the steam locomotive bay of the Bydgoszcz ZNTK will be adapted to diesel locomotive repairs; and the heating and compressed air systems at the Stargard ZNTK will be modernized and expanded.

The outlays on the electrification of railroad lines will include the following lines: Szczecin Dabie-Swinoujscie, Lukow-Terespol, Tluscz-Malkinia, Tluscz-Wyszkow, Wroclaw-Glogow, and Fosowskie-Kluczbork, all representing continuing work.

The investment restrictions introduced in 1982 and the prohibition against commencing new investments inhibit the electrification of railroad lines. Total suspension of the electrification will take place as early as in 1984. This situation will necessitate imports of diesel locomotives in view of the impossibility of any renewed large-scale expansion of steam locomotive services. This will also require increasing the imports of diesel oil. Independently of this, the already well developed industrial facilities for building electric locomotives will gradually cease operating, as will the facilities for supplying power to electric locomotives and the construction and installation facilities of the Ministry of Transportation.

The magnitude of the transport work of the railroads and their substantial economic performance necessitate further urgent electrification of railroad lines such that each year an additional 400 km of these lines will be put into operation. In this connection, it is necessary to commence in 1982 the electrification of 85 km of lines; in 1983, 234 km; in 1984, 456 km; and in 1985, 504 km.¹ [sic]

Electric traction produces annually the following savings per 100 km of lines: 90,000 tons of coal, when replacing steam traction, and 11,000 tons of diesel oil when replacing diesel traction; in addition, it saves 140 million zlotys per 100 km in operating costs when replacing steam traction and 110 million zlotys when replacing diesel traction.²

In addition, the relatively non-measurable results of line electrification include:

- dispensing with imports of diesel locomotives;
- an explicit improvement in efficiency and regularity of train traffic, especially in winter;
- improvement in working conditions and environmental protection;

--maintenance of the production potential (employment) in plants of the rolling stock industry as well as in electrical equipment plants and installation enterprises.

In view of the country's difficult economic situation, the ministry of transportation has decided to halt completely in 1982 the implementation of 47 investment projects, including the construction of new railroad lines and the expansion of certain switching yards as well as the construction of highways and beltways (Poznan, Warsaw-Strykov, Katowice-Chrzanow, Katowice-Gliqice, Gliwice-Wroclaw).

FOOTNOTES

1. This conflicts with the preceding paragraph which states that the electrification of railroad lines will be completely suspended in 1984--
Translator's note.
2. In 1979 prices.

1386
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IMPACT OF WORLD INFLATION ON SOCIALIST COUNTRIES' PRICES DISCUSSED

Warsaw GOSPODARKA PLANOWA in Polish No 10, 1980 pp 480-484

Article by Stanislaw Raczkowski: "Impact of World Inflation on Prices in the Socialist Countries"

Text During the 1970's, inflationary processes in the capitalist countries worsened considerably.* In every country, wholesale prices rapidly rose, especially after the increase in the price of crude oil before the end of 1973; retail prices increased as a result. From 1970 to 1978, retail prices increased by 50 percent in West Germany, by 68 percent in the United States, by 100 percent in France, by 165 percent in Italy and by 170 percent in England.

In the CEMA socialist countries, inflationary pressure also appeared but to a lesser degree. In some countries, like Poland and Hungary, it appeared as an increase in the retail price indicator of 34 and 31 percent, respectively, from 1970 to 1978. In other countries, this indicator grew minimally or not at all, but the phenomenon of satisfied demand in the market appeared to a varying degree. Inflationary pressures can occur in a socialist country as a result of causes within the economy, especially when accelerating development. To a certain degree, they can result from the increase of world prices, so-called imported inflation.

Generally speaking, the impact of world inflation on the economy of the socialist countries belongs to two principal factors: 1) the degree of dependence of a given country's economy on foreign trade and 2) from that within the framework of the planning and management system, the relationship between domestic and world prices.

The dependence of individual socialist countries on foreign trade varies considerably. The share of foreign trade in national income fluctuates from approximately 5 percent in the Soviet Union to approximately 25 percent in Poland to approximately 40 percent in Hungary. The value of import in dollars per inhabitant was as follows in 1978: USSR, \$177; Poland, \$460; Czechoslovakia, \$753; East Germany, \$868 and Hungary, \$1,113 (as a

* Work published for the first time in Problems of Planning and Socio-Economic Policy (Book for Studying National Income and Kazimierz Secomski's Economic Activity), collective paper under the direction of A. Lukaszewicz, Warsaw, 1980.

comparison, France, \$1.534). It is obvious that the Soviet Union, which is not very dependent on foreign trade, was practically unaffected by the import of inflation from the West. On the other hand, the other countries had to contend with it.

In the socialist countries, the increase in world prices can impact on domestic prices only through the mechanism of accounts clearing in foreign trade. This accounts clearing is enacted by foreign trade enterprises on the one hand with their foreign partners and on the other hand with domestic suppliers of commodities for export, as well as consignees of imported commodities.

1. With respect to accounts clearing with foreign partners, because of the nonconvertibility of socialist currencies, all import and export contracts are always concluded and paid in foreign currencies. Within CEMA, there are ruble transfers; with other countries, various convertible currencies. Foreign exchange prices for imported and exported commodities are expressed in foreign currencies and are in principle world prices.

Current world prices are used in transactions with capitalist countries. When those prices increase under the impact of inflation, their growth directly affects trade and the CEMA countries' balance-of-payments situation.

On the other hand, modified world prices are used in transactions among CEMA countries. Per the resolutions passed by the Ninth CEMA Congress in 1958, world prices from the previous 5 years are employed, eliminating the harmful impact of passing fluctuations and speculation existing in capitalist markets. Previously, these prices were changed every 5 years, so that the increase in world prices was felt much later in trade among the CEMA countries. For example, average world prices from 1966 to 1970 were not used until 1974, without regard for how world prices were behaving. As a result of increasing world inflation after 1970, as well as the increase in prices for many commodities, it was decided that from 1971, mutual turnover among the CEMA countries would be counted in prices adjusted annually rather than every 5 years. Changes in world prices continue to affect the prices used in these turnovers later, but the later effect is smaller and these prices are closer to current world levels.

In order to judge the general meaning of world price increases on the level of foreign exchange prices in individual socialist countries, it is important to know the turnover share with capitalist countries and the turnover share with CEMA countries in their respective foreign trade. During the past several years, the turnover share with capitalist countries was over 50 percent in Romania; approximately 40 percent in Poland, Hungary and the USSR; approximately 30 percent in East Germany and Czechoslovakia; as well as approximately 20 percent in Bulgaria. In these latter countries, the direct impact of world inflation on foreign exchange prices in foreign trade was thus comparatively smaller.

The delay in transferring world price increases to mutual turnover has a significant meaning for the socialist countries' terms of trade. Above all, it has eased the impact of price increases for crude oil in those countries' balance of payments.

2. With respect to accounts clearing by foreign trade enterprises with domestic partners, carried out in domestic currency, domestic prices for imported and exported commodities are used. The balance of these prices with foreign exchange prices can take shape in various ways; thus, the impact of world inflation on a socialist country's domestic prices varies.

In practice, two fundamental types of wholesale prices are used for domestic commodities becoming the subject of foreign trade; namely, constant prices and variable prices. Constant prices of commodities earmarked for export and coming from import are set for longer periods by state authorities. Their constancy is supposed to stabilize important cost elements of production and prices of fundamental commodities consumed by the people.

During the establishment of the level of constant domestic prices, the existing relationship to world prices, above all other elements, is taken into consideration. But established prices are used in accounts clearing between foreign trade enterprises and their domestic contracting parties without regard for how prices will change on the world market. In this situation, considerable differences between the constant domestic price and the foreign currency price, which is counted in domestic currency, can appear in foreign trade enterprises. Such differences can cause undeserved profits or uncommitted losses in these enterprises. In order to avoid this, a special settlement mechanism is used. Exceptional profits resulting from such price differentials are paid by the foreign trade enterprises as a special settlement calculation in the state budget. On the other hand, exceptional losses are settled by remittance from the calculation. Such settlement calculation facilitates the maintenance of an autonomous system of constant domestic prices for imported and exported commodities; the increase in world prices does not exert a direct influence on domestic prices.

Variable domestic prices of exported and imported commodities appear through conversion of the foreign exchange price secured or paid abroad into the domestic currency. This is the so-called transaction price. The variable price for an imported commodity, which the domestic buyers pay, comes about through the addition of trade costs to the transaction price and the foreign enterprise's margin of profit, as well as eventually duty and trade tax. The variable price achieved by the producer of an exported commodity responds to the transaction price, less cost and the trade margin of profit.

Changes in world prices exert an immediate and direct impact on domestic variable prices. They also exert an impact on the size of the domestic enterprises' profits, although not on constant prices. If the foreign trade enterprise is only a business agent or commission agent, then the profit or loss in a foreign transaction, after the commission's nudge, flows to the supplier of the commodity earmarked for export or to the receiver of the imported commodity. However, if the enterprise is acting on its own, it will either achieve a profit or suffer a loss.

Until the second half of the 1960's, constant prices for imported and exported commodities were used throughout the CEMA countries. Only in the case of machinery and equipment, for which it was difficult to set a domestic price

through the analogy of prices for other commodities, were variable prices based upon a transaction price used. On the other hand, in conjunction with changes in managing the national economy, which appeared later in some countries, as well as through the introduction of a wider scope of parametric management instruments, the scope for using variable prices in these countries was broadened.

Thus, we have a differentiated situation. Some countries continue to use in principle domestic constant prices, while others have introduced variable prices to some degree. This particularly concerns export. As a result of the need for a balance of payments, these prices can be modified in certain countries through various financial tools; e.g., duties or taxes on imports and a return of median taxes on export commodities. However, domestic constant prices have maintained certain basic imported raw materials and other materials.

Means to Neutralize the Impact of the Inflationary Increase in World Prices

The consequences of the inflationary increase in world prices are differentiated in this situation, if we are discussing particular socialist countries, and depend on the scope of domestic constant and variable prices. However, these countries can defend themselves from these consequences--at least for a while.

During the setting of constant domestic prices, the increase in world prices does not cause a price increase in the country for some time. Buyers of imported commodities pay the same as before for them, and the supplier of export commodities receives the same amount for them. Thus, neither the domestic enterprises' costs nor financial results change. On the other hand, amounts passing through the state budget's clearance of accounts grow immediately. A negative balance can appear in this account as a result of the unfavorable disposition of world prices. This situation can be tolerated for a certain time but in the end a problem will result--how to cover the balance. The necessity either to reduce other budgetary expenditures or to raise taxes may appear and this could act negatively on economic development.

Independent of budgetary considerations, constant changes in the relationship of world prices for certain commodities--e.g., fuels and certain raw materials during mid-1970's--should be reflected in domestic prices. This is indispensable for guaranteeing a rational economy in production enterprises. If the world price of some imported raw material increases in a constant manner, then the enterprises should save it, seek substitute raw materials, change production technology and undertake other similar actions. There is no such stimulus with an unchanged domestic price. In this case, the information function of the import price for the producer becomes very weakened.

The need to account for both the changes in relationships in domestic prices and the increase in prices for raw materials appears particularly in smaller socialist countries that import these raw materials in large quantities. This

is the reason why, against the background of considerably increased world prices for raw materials and fuel, which took place in the mid-1970's, almost all of the CEMA countries introduced reforms of national wholesale prices, taking into account the changing relationship of world prices. Not only the current world prices from the preceding period of change were considered but also the prognosis for upcoming price movement. Of course, also taken into consideration were changes originating in domestic production conditions. These reforms were introduced for the most part in 1976 and 1977.

In Poland, price reform was introduced in two stages. In 1976, wholesale prices for many basic raw materials and other materials were raised, above all energy-related raw materials, smelted goods, colored metals, wood and cotton. The price of electric energy was also raised, as well as the cost for transporting commodities by rail or truck. As a result, the general level of wholesale prices rose 6 to 7 percent. Alongside these increases, was the necessity to consider the changed relationships of world prices, as well as the change in domestic production conditions. For example, the price of coal was raised by 25 percent, in line with the increase in extraction costs. During the second stage of price reform--1977 and 1978--wholesale prices for semi-manufactured goods and finished goods were raised. Prices for components and construction work were also increased. Through these increases, the impact of the first stage's price increases on production costs in the enterprises was considered. As a result of both reform stages, the general level of wholesale prices for production means increased about 15 percent; however, this was too small. In light of a further increase in world prices, new reform of wholesale prices will be essential.

An interesting example of broad price reform was the changes in wholesale prices introduced in Czechoslovakia in 1977. The prices of basic imported raw materials were raised considerably at the time, by 52 percent. The consequences of this increase were neutralized by lowering the prices of many other products. This was achieved by lowering the degree of profit in existing prices and moreover by lowering the cost of production. New prices for raw materials and energy caused an increase in material costs of an average 5 to 7 percent within all branches of the national economy. In some branches, this caused an increase in wholesale prices. In spite of this, the existing level of wholesale prices in industry was preserved, while it was lowered somewhat in the national economy. The increase in costs for purchasing imported raw materials was greatest within basic industries (fuel, energy, chemicals and metallurgy), where the level of wholesale prices increased 8.4 percent. In manufacturing, where a greater possibility of maneuver in the profit field existed, the general price level was lowered 6.4 percent.* In general, goods production was lowered 57 percent, but the price level increased 48 percent.

The constant increase in world prices thus is not reflected initially on the level of domestic constant prices but in the longer term causes their growth. This necessitates the maintenance of a rational economic calculation in the national economy.

* V. Janacek, Design and Results of a Complex Reconstruction of Wholesale Prices, "Planned Economy," 1977, No 2, pp 12-13.

The example of Czechoslovak price reform shows that it is even possible to defend against imported inflation and to maintain a general level of wholesale prices without change by raising some prices and lowering others. In this way, one takes advantage of suitable financial instruments; e.g., lowering profits contained in some prices or reducing production costs for some goods. Of course, all of this must fit within the state budget.

The situation with respect to domestic variable prices for imported and exported goods is different. The inflationary growth of world prices directly and immediately causes a corresponding growth in domestic prices. As a consequence, production costs increase in enterprises using imported goods. This can disturb conditions for executing the current socio-economic national plan. Thus, remedial measures are necessary.

If the growth of world prices encompasses a very broad gamut of goods subject to international trade, then its impact on the domestic economy can be neutralized by a suitable revaluation of the domestic currency. The cost of imported goods expressed in the domestic currency then does not change or at least grows to a lesser degree. In Hungary, for example, where the scope of using variable prices is very broad, the forint's rate was revalued in relation to other currencies by 38 percent from 1966 to 1974.

However, if the growth of world prices concerns only some goods--and to an unequal degree--then it is sufficient to use suitable, rectifying financial instruments. One can thus introduce subsidies from the budget for enterprises importing commodities whose prices in particular have risen. Simultaneously, it is possible to tax excessive profits of enterprises exporting commodities whose world prices have gone up. The shaping of world prices in export and import, as well as the trade balance situation, means a lot. If the foreign currency prices of export commodities increase more slowly than import prices, and at the same time an import surplus appears in the trade balance, then taxes on exports cannot finance import subsidies. Concrete budgetary possibilities thus create specific limits for using rectifying financial instruments.

In practice, despite currency revaluation or use of rectifying instruments, it is impossible to maintain domestic wholesale prices on a constant level. In Hungary, for example, producers' prices rose approximately 20 percent, despite the application of various means.

The stabilization of domestic variable prices can be generally inadvisable. If the growth of world prices and changes in their relationship are lasting, neutralizing their impact on domestic prices can be economically unjustifiable in the long run. This happened in the mid-1970's, when the prices of fuel and many raw materials rose. It was necessary then to allow appropriate domestic wholesale prices to rise. Such a consideration was undoubtedly--at least partially--the basis for the growth of wholesale prices in Hungary, and also in some other countries.* By using variable domestic prices in

* See B. Csikos Nagy, Price Mechanism and Trade in the Means of Production in Hungary, "Acta Oeconomica," Budapest, 1976, pp 35-46.

foreign trade, the impact of inflationary growth on world prices causes either an immediate or gradual increase in domestic wholesale prices, at least in those socialist countries largely dependent on imports.

As seen from this, world inflation causes an increase of domestic wholesale prices in this country through the system of constant and variable prices. The question thus can be posed as to how and whether the increase affects retail prices.

The general level of retail prices has not changed much in the CEMA countries over the long term. During the period 1966-1970, the general indicator of retail prices in two countries did not change, while it rose by barely several percent in three countries. Only in Poland and Hungary was the increase greater.

Retail prices for commodities in collectivized trade are set in the socialist countries by the appropriate authorities, organizations or economic units and remain constant for a long time without regard of wholesale price changes in foreign trade. The eventual differences between them and wholesale prices, increased by the internal trade enterprise's margin of profit, are covered by appropriate subsidies from the state budget.

To a certain degree, if the principles for setting prices agree, retail prices can change under the impact of world price changes. This occurs, for example, when the duty on an imported commodity, whose wholesale price is variable, is lowered. The retail price is then calculated and introduced by the domestic trading enterprises.

Every socialist country treats in one way retail prices for basic commodities and services for the broad mass of people and in another way other commodities that meet other needs. The prices of basic commodities and services are maintained at a low level, frequently through subsidies from the state budget, and they are rarely changed. In the USSR, for example, payments for gas, electricity and telephone and ticket prices for public transportation have not changed for 30 years. In Poland, the prices of some basic commodities and services have not changed for several years. On the other hand, the prices of other commodities have risen periodically. The constant growth of nominal income from increased work productivity has not interfered in the growth of real income and prosperity. In the Soviet Union and some other countries, the principle of maintaining the unchanged general level of retail prices is used. If the need arises to raise some prices, others are simultaneously lowered.

If under the impact of world inflation the growth of domestic wholesale prices for some consumer commodity occurs, then it is possible to neutralize its impact on retail prices through suitable financial instruments. Osten-sibly, one can lower the degree of trade tax or the degree of profit in the wholesale price. One can also introduce or increase the budgetary subsidy. In the first case however, the budgetary impacts are reduced; in the second, larger expenditures appear in the budget. Despite this, such a situation can be maintained even for a long time, if planning tasks in the area of

living demand it. But if the relationship of world prices changes constantly, then it is impossible to allow domestic retail prices for consumer goods to remain permanently unchanged, as they occurred under completely different circumstances. Certain changes in the relationship and level of retail prices must be introduced in the end.

As a result of these observations, the inflationary growth of world prices undoubtedly has an impact on the level of domestic prices in socialist countries. Above all, it impacts domestic wholesale prices for imported and exported commodities. The growth of these prices is, however, retarded by two factors: 1) the CEMA countries use more stabilized foreign exchange currency prices in their mutual trade and 2) to a more or less large degree, these countries use constant wholesale prices that are changed over long time periods.

The impact of the growth in world prices on domestic wholesale prices is greatest and quickest in those countries widely using variable prices for imported and exported commodities participating greatly in trade with the capitalist countries.

The socialist countries, however, can defend themselves to a certain degree from imported inflation. Above all, they can neutralize the impact of the growth of world prices' general level on domestic prices through a suitable revaluation of their currency. This means a change in the official exchange rate or the conversion factor used to convert foreign trade prices from the foreign currency to the domestic currency.

Independent of this, the constantly changing relationship of prices for certain commodities, especially raw materials and materials used in production, can be temporarily neutralized through appropriate financial instruments, first rectifying domestic wholesale prices and next, as needed, retail prices. In the case of constant wholesale prices, this occurs automatically through an appropriate equalizing calculation in the state budget. In the case of variable prices, this can be accomplished through appropriate subsidies from the budget financed completely or partially by taxes on excessive profits from production earmarked for export. In the case of retail prices, the wholesale price of an imported commodity is the rectifying factor, reducing in it the degree of trade tax or profit, or the retail price does the rectifying through the aid of an appropriate subsidy from the state budget.

The Role of the State Budget

The state budget plays an important role in neutralizing the impact of world price increases on domestic prices. It fulfills the role of amortizer, permitting the collectivized economic units to execute their planned tasks without regard for price changes in the world market. Neutralizing the impact of world price changes on domestic prices cannot, however, last long if tied to a considerable growth of net budgetary expenditures for this purpose. They must remain covered by some means, which can necessitate cutting budgetary expenditures earmarked for other purposes in the national socioeconomic plan.

Maintenance of unchanged relationships among domestic prices for an extensive period, when inflationary world prices rise and their relationships change constantly, perverts the economic calculation in the enterprises and can petrify the people's irrational consumption. Moreover, it retards the economy's adaption to the changed situation on the world market. After a certain period, it is thus required to introduce constant price reform or allow variable prices to rise and is also necessary to raise some retail prices. Wholesale price changes in the socialist countries follow above all the result of changes in the national economy's production conditions and only partially the impact of world price changes.

If one wishes to neutralize the impact of world price increases on the national economy, it is necessary to introduce appropriate structural changes in it. This can be done through planning, through suitable formation of midterm plans on investment, production and foreign trade, which are introduced as structural changes in import and export, as well as through improved management efficiency. In the CEMA countries, this can increase progress toward economic integration, facilitating production benefits and creating new economic connections. Changes in the national economic structure cannot be realized in a short period, however, and can demand a significant import of modern machinery and equipment from abroad, which is difficult without obtaining suitable foreign credits.

9807
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AIR TRANSPORT PROBLEMS REPORTED

Warsaw SLOWO POWSZECHNE in Polish 2 Jun 82 p 3

[Article by Stefan Sokulski: "Clipped Wings;" passages in slantlines printed in boldface]

[Text] / It seems that no person in the country at this moment would know what is next for air transportation. True, it is difficult to imagine a country as developed as Poland without air transportation. However, we have already got accustomed to many things, though this does not make our life easier or our existence - normal. After all, air transportation is but a marginal issue against the background of overall affairs, an issue of interest to a relatively narrow circle of people. /

While not endeavoring to come up with an answer to the question on the future of air transportation, it would be worthwhile to present the current situation and ponder the prospects.

The last decade can be entered as a very favorable chapter in the history of air transportation both in the domestic and foreign markets. The length of regular air service grew twofold in the years 1971 - 1980 (from 41,000 to 93,000 kilometers). The number of passengers increased from 643,000 to 791,000 on domestic flights and from 325,000 to 1.037 million on flights abroad. Passenger seat capacity utilization was higher than the world average. Profits of LOT increased from 300 million zlotys to 2.7 billion in 1981.

/ A decline in the volume of transportation and profits began in 1980. Until 1979, the volume of transportation on LOT increased annually by an annual average of 17 percent whereas for the last 2 years there has been a precipitous drop. / The amount of transported cargo and the number of passengers decreased, and so did the utilization of capacity on domestic and foreign flights. Some consolation may be found in the fact that the years 1970 and 1981 were also unsuccessful for international air transportation as a whole. Air transportation worldwide grew by a mere 3 percent in 1980 and by only 1 percent in 1981.

To be sure, our indicators were influenced by a difficult economic situation of the country in recent years. However, the main reasons for regress have to do with the growth of fuel prices and high fares as well as the not-so-good

quality of equipment. Suffice it to say that in 1971 the share of fuel in total operating costs amounted to 11 percent, whereas at present it reaches 25 percent.

Overall prospects are not altogether encouraging, because we have to reckon with stagnation in the domestic market and the shrinking foreign market. / There has been an increase in the number of passengers in recent months, but we still have a way to go in order to achieve the threshold of profitability for LOT, the passenger seat utilization coefficient of 0.75. A further comeback of air transportation depends on normalizing the situation in the country, but also on many other factors, such as the general development policy in transportation and transportation rates as well as the success of the introduction of economic reform.

/ It is said that fuel problems rather than air fares will put a squeeze on air transportation, as has been the case with highway transportation. However, the issue of tariffs is also important, especially given the current situation in the country. Increase in railway ticket prices may facilitate a switch to air transportation. Nonetheless, in all probability it will be impossible to do without certain state subsidies, since there is no chance of transportation becoming profitable in the environment we have.

It is a different story when it comes to international transportation, which has always turned in considerable profits. / It should be borne in mind that between 1976 and 1980 incomes of civil aviation as a whole exceeded expenditures by 5.6 billion zlotys, while LOT itself had a surplus of 7.8 billion zlotys. A marked decrease of foreign-exchange incomes occurred as late as 1980. To be sure, LOT made \$28 million on international transportation. However, foreign-exchange expenditures grew simultaneously due to increasing transportation from the domestic market to a quota of \$72 million. We had to allocate \$44 million from the state budget to subsidize air transportation. In the current year, this negative balance will diminish despite less income (a decline in transportation from Poland) because foreign-exchange expenditures are also falling.

This year, individual transportation is planned to be at 15 percent of last year's volume, service transportation - at up to 50 percent. At the same time, there will be more passengers paying fares in foreign exchange (50 percent against 30 percent in 1981). LOT will serve a total of 700,000 - 750,000 passengers this year, which does not compare favorably with almost 2 million in 1979.

A reduced scope of operations (projected income of 6 billion zlotys as against 16 billion as recently as 1981) will certainly influence the degree of equipment utilization. We used to complain about having too few planes and about our equipment not being competitive as far as passenger comfort and operating costs. Today we are looking for work for the planes we have; also, we have started selling some planes off. Four TU 134 and two IL 62 have already been sold; however, we are having trouble trying to fully utilize our 41 planes.

/ The old age and very high operating costs of our equipment add to our problems. To be sure, we have signed a very favorable contract for selling our old planes to the USSR. Thanks to this, we will have funds to purchase new planes, but so far the time of delivery and the type of equipment are not known. They may be Jak 42 or wide-body IL 86, but we will lack all-purpose planes which can transport both passengers and cargo. /

Now is the time to say openly that we cannot afford other equipment and that we must adjust to operating the planes we have and the planes we can purchase.

However, we should proceed with more efficiency and speed in looking for a job for equipment and personnel. It is known that at this moment there is no chance of restoring the Far Eastern line and flights to the USA and also to fully employ planes on other routes. A redirection of lines and the assignment of a larger number of planes for flights to Libya and Iran could be a way out. It is not easy to increase the frequency of flights. However, at present one has to wait for 3 months for a seat on a flight to Libya.

Also, increasing cargo transportation can be given some thought, and even more so because we are said to have received such offers and only have to solve the problem of adjusting our planes for cargo transportation. Do we have to ship our cargo by car to Frankfurt and by Lufthansa planes across the ocean from there? LOT can do it and make profit in the process just as well.

In search of a way to overcome the deep impasse, LOT has begun turning to various forms of auxiliary production. At the same time, a so-called review of personnel has started throughout the enterprise. These actions are forced but necessary under the present circumstances. There is no hope of using the planes and crews abroad, because there has been a drop in transportation everywhere. Therefore, a solution must be sought in developing services and cooperation with foreign partners. This, however, is not simple. For example, buses could be painted, but there is no paint. Also, there are no materials to produce high-pressure conduits which are in great demand. Maybe, we will manage to paint several Bulgarian and Hungarian planes and produce some accessories for the USSR. Repairs of engines and An-2 planes are also planned.

Finding employment for pilots is more complicated. It would be easy to let them go or retain them as stewards or office workers. However, this is no way out, especially given reductions in employment in offices abroad and ticket offices at home. In New York, 11 persons are currently employed instead of the 30 that used to work there; personnel in Paris has been reduced from 8 to 4.

It would seem that adaptation to existing conditions and surviving the period of crisis are the most important in this extremely difficult situation. Air traffic is beginning to come back slowly. However, it will certainly be several years before air transportation can pull its weight. Maybe, it will not come to selling planes in order to provide salaries for employees, but no development in air transportation can be expected in the absence of growth in exports and tourism.

/ In adjusting the activity to new economic and supply conditions, no effort should be spared in order to preserve the basic stock (personnel, equipment, airports), because, as I have stated in the introduction, it is impossible to imagine Poland without air transportation, both domestic and foreign. /

9761
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MEASURES TO MAKE AUTOMATION, COMPUTER EXPORTS COMPETITIVE

Bucharest REVISTA ECONOMICA in Romanian Nos 22, 23, 4, 11 Jun 82

Article by Matei Constantin, chairman of the Scientific Council of the Institute of Scientific Research and Technological Engineering for Automation and Telecommunications (Part I), and Dr Ovidiu Rujan (Part II): "Export of Peak Equipment Promoted"

14 Jun 82, pp 15-16

Text Automation Systems

The Directives of the 12th RCP Congress and the Law in Ratification of the Uniform National Plan for Romania's Socioeconomic Development in the 1981-1985 Period assign the field of automation means one of the highest production growth rates, with special emphasis on increased exports and especially exports of industrial products incorporating more labor and Romanian know-how.

Therefore it is not only important to increase the volume of production but it is also vital to provide for the technical standard of the products, their quality, reliability and competitive power, as essential means to increasing their export.

On the world level the production and performances of automation means are undergoing a very pronounced evolution, especially the performances. The cost-performance ratio is increasing rapidly, by an average of 2 times in 2 or 3 years, in which time such a product becomes obsolete. This evolution is primarily due to the growing use of the advances of electronics in general and of digital computing equipment in particular, which are peak fields of science and technology. Product reliability is specially emphasized, and electronic equipment is becoming more reliable than the mechanical devices.

Although production of automation means is one of the few outputs that is maintaining a quite high growth rate in the capitalist countries under the present conditions of economic crisis, the competition is particularly keen and demands greater research and development efforts on the part of the producers to maintain the competitive power of the products. Considerable sums (up to 10 percent of the value of the output) are being allocated for this purpose.

Under these circumstances Romania has been trying to catch up with the quality of the machinery and equipment made in the developed countries, to which end the IPA /Institute of Scientific Research and Technological Engineering for Automation/ has been assigned very challenging tasks. It can be seen that the technical level of the performances of the products resulting from research and design corresponds in general to worldwide results, with a pronounced increase in the degree of electronization of the automation installations and equipment, which now amounts to more than 65 percent.

As we know the E-line electronic control system, composed of analog devices in equipment with germanium transistors, was assimilated on the basis of a license in Romania in 1965-1970. Later on two new generations of that system were developed by Romanian design, one in 1975-1980 based on silicon transistors and the SEROM system, and the other in the 1980's based on integrated circuits, which in general made it possible to maintain the performances and competitive power of the system on the level of comparable products of the Taylor, Foxboro and other firms.

In the last few years a basic trend set in toward use of digital computing equipment based on microprocesses in increasingly complex systems as extensively as possible in all types of automation means, resulting in a spectacular improvement in the latter's performances such as precision, reliability, diversification of functions and ranges, etc.

The ECAROM machine (designed by the IPA and manufactured by the FEA /Factory for Automation Elements/) is one example. It is a small computer of generations 3.5-4 designed to control technological processes that has been internationally approved for the CEMA countries both separately and with the INDEPENDENT 100-INDECAR-ECAROM process computing system. In the latter variant it is also attested by the French CERCI firm. The system is already in use in various industrial capacities like cement factories, gas fields, tire factories, the chemical industry, the passenger car industry, machine building enterprises, etc.

The NUMEROM electronic system for digital control of machine tools, also designed by the IPA and manufactured by the FEA, includes a wide assortment of machines from simple entry posting to computer control. Many members of this family have performances up to European standards.

The distributed process control system, now in the final stage of design at the IPA and Automatica, incorporates a great many units with various functions and with good performances based on peak equipment (uP, transmission of data through optic fibers, display with a color cathode-ray tube). Such systems are made by only a few firms in highly developed countries like Honeywell and Foxboro in the United States, Siemens and Hartmann-Braun in the FRG, Toshiba and Hokushin in Japan and a few others. Note that more and more beneficiaries are demanding supplies for equipping the capacity with distributed control systems in their requests for complete installations for export.

The quality of the automation means manufactured in Romania is also attested by the fact that they have been exported to several countries of the world to equip various installations like the Banias Refinery in Syria, the cement factories in Sheik Said in Syria and in Kakani and Nasice in Yugoslavia, the Hamrawein

Phosphates Complex in Egypt, steam generating stations in the GDR etc. The foreign beneficiaries have all appreciated the modern design of the Romanian systems and the quality of the automation equipment, and that has helped to promote exports of technological installations and equipment in the respective fields. Direct export is illustrated by the massive deliveries of electronic equipment for regulating the operating speed of electric motors to the USSR and other countries, a field in which the quality of the products designed by the IPA and manufactured by Electrotehnica entirely meets the INTERELECTRO standards.

Quality, Reliability and Competitive Power

A continuing effort has been made in both research and production to enhance the reliability of electronic automation equipment and especially of digital equipment.

The institute and manufacturing enterprises are taking steps in all stages of design and manufacture to further improve the quality and performances of this equipment.

The causes of the shortcomings, the reliability of each element, and measures to eliminate the weaknesses were analyzed in the research stage. One important conclusion from these studies was the qualitative dependence of the performances of automation equipment upon the quality of the electronic components, a subject on which progress has been made through collaboration with the specialized institutes and enterprises.

Note that the quality and reliability of automation equipment must be improved while the imports of components are rationalized and the consumption of materials is reduced. Because of that situation a number of efforts has been made to assimilate a wide variety of electronic components in Romania like extensively integrated circuits (microprocessors, semiconductor memories, A/N and N/A /expansions unknown/ converters, hybrid circuits, CMOS circuits with much lower consumption than the TTL circuits now manufactured) and components with better performances and in highly reliable professional varieties. Meeting the qualitative and structural requirements for components of automation equipment will be essential to the competitive power of Romanian products on the foreign market as well.

In the production stage, some particular modern manufacturing methods have begun to be introduced such as grading and aging the components and overall /in val/ tin plating, while the institute's efforts are concentrated on mechanization and automation of operations for automatic installation of the components and automatic testing of the components, subassemblies and products in all units making automation equipment. Note that the technologies for automatic control are now being developed in the institute as an integral part of the design of the new products. To this end we have developed and assimilated a family of automatic testing devices based on small computers (THETAROM). Use of these testers produces spectacular gains in productivity of control operations (by dozens of times) and, more important, a better quality of the controlled products.

In the design stage, the effort is being made to obtain higher quality and reliability through design of the adjustment process, selection of procedures and provision for suitable solutions. This enhances the reliability indicator for the whole automation installation. For example in the case of the distributed control systems, from an MTBF /expansion unknown/ initially of about 1,000 hours for the weakest modules, a value of more than 50,000 hours is attained for an assembly for adjustment and control of the process. In this way a reliable system is achieved with less reliable elements.

Automation installations for units in the most varied industrial sectors have been designed and produced lately practically in their entirety in Romania, the most important ones by the IPA. The quality and degree of automation of these installations are comparable to those of similar systems designed and manufactured by famous firms using electronic adjustment systems, programmable automated elements, and computerized servicing and control.

We mention by way of examples the automation of pyrolysis installation II at the Pitesti Chemical Combine, the monomer and polymer installations at the Rimnicu Vilcea Chemical Combine, the Slobozia, Turnu Magurele and Arad chemical fertilizers combines, the Hoghiz, Deva and Tasca cement factories with high-capacity production lines, the sugar, oil and margarine factories, the high-capacity conveyor-belt lines and many others.

The wealth of experience acquired in preparing and activating many such automation installations used in various and highly important industrial capacities enhances the prestige of the automation devices and equipment for export as well as the value of deliveries of complete installations that consequently incorporate a higher proportion of exported know-how. By lending better characteristics for the management and operation of the industrial capacities Romania builds abroad, automation facilitates this kind of export in the face of increasingly keen competition. But in such cases consulting, engineering and technical propaganda activity is controlling for export of automation means.

What Makes the Systems Effective?

Now that digital computing equipment is being used on an increasingly wide scale the programming effort representing over 50 percent of the value (with a tendency to reach 70-75 percent) can enhance and even determine the competitive power, quality and even the reliability of modern electronic automation means. The basic programs, and especially the applied ones, that have been developed and tested in Romania so far are only a beginning but they will be a decisive factor for future exports of automation equipment.

As we know software is a bottleneck on the world level and a sore point difficult to handle because the requirement exceeds the capacity of even the well-known specialized firms to produce it. The world's big producers, specialized firms like Foxboro, Honeywell and Taylor, have come to the same conclusion and are studying possibilities of international cooperation for the purpose.

Therefore it is necessary to prepare programs to be amplified and diversified as a sure and effective means of increasing the value and competitive power of Romanian products for export.

Another way to increase competitive power is to correlate improvement in automation equipment with modernization of the automated object (machine tool, equipment, technological installation) to permit efficient use of automation. But some installations and equipment are not originally designed for automated operation, and others are not reliable enough. And we also think organization and continuing improvement of personnel training for research, design, programming, production and maintenance of automation equipment are important factors in providing for the quality and competitive power of Romanian products. The latter can be promoted on the foreign market only by correlating their rapid adjustment to the evolution of the general technical standard with their adjustment to the customer's particular demands.

11 Jun 82, pp 15-16, 247

Text Electronic Computers

The strategy of manufacture of electronic computers, professional electronic components and integrated circuits in Romania was formulated 15 years ago in drafting the Program to Supply the National Economy with Computing Equipment in 1967. An important part in this industry's development was also played by the Decision on Improvement of the Socioeconomic Information System, Introduction of Management Systems with ADP Facilities, and Supply of the National Economy with Computing Equipment ratified at the Plenum of the RCP Central Committee in April 1972, which also set the basic policies of this field as follows:

- Priority introduction of ADP in enterprises, industrial centrals, research institutes and coordinating units for rationalizing production;
- Concentration of facilities in large computing centers;
- Uniform design of data processing systems for management;
- Personnel training in data processing;
- Series production of high-performance equipment.

Today the Romanian computing equipment industry is concentrated in many production units coordinated by the CIETC /Industrial Central for Electronics and Computer Technology/. The main production and research units under CIETC are the Electronic Computers Enterprise, the Related Equipment Enterprise, and the Enterprise for Maintenance and Repair of Computing Equipment, which has many branches throughout Romania. Equipment related to electronic computers is manufactured in units coordinated by the CIETA /Industrial Central for Telecommunications and Automation Equipment/, and some related equipment is manufactured by the mixed Romanian-American Company ROMCONTROL DATA with headquarters in Bucharest.

The Institute for Computer Technology, specializing in software and research, operates as a specialized unit for scientific research and technological engineering in the field of computer technology with branches in Timisoara and Cluj-Napoca.

Showing a steady gain, Romanian computer production was about 5 times greater in the 1976-1980 Five-Year Plan than it was in the preceding period. Production of third generation electronic computers was started in 1971 on the basis of a license from CII (Compagnie Internationale pour l'Informatique in France) and was then greatly diversified and modernized by means of Romanian designs and went into the more advanced computer generations.

The Romanian industry now supplies almost the entire assortment of computing equipment required by the national economy, namely computing systems of medium-large, medium and small capacity in the FELIX family; MC-80, Independent I-100 and CORAL-4011 minicomputers, M 18, M 118 and other small computers; machines for medium and small scale mechanization (CE 128, CE 129 T etc.); related equipment; on-line systems for collecting and introducing data of the IEC and SID types; memory modules with ferrites and integrated circuits; and FC-16, FC-128 and other invoicing and accounting machines.

Table 1. Main American Firms' Output of Electronic Computing Equipment in 1980

Nr. 1 crt. Firma	2 Pozitia 1979	3 Produsul in anul 1980 (mil. \$)	4 Crestere fata de anul precedent	5 (%)
1. IBM	1	21 367	17	
2. NCR	2	2 840	12	
3. Control Data Corp.	4	2 790	33	
4. Digital Equipment Corp.	6	2 743	35	
5. Sperry Corp.	5	2 552	12	
6. Burroughs	3	2 478	1	
7. Honeywell	7	1 634	12	
8. Hewlett- Packard	8	1 577	37	
9. Xerox	10	770	35	
10. Memorex	9	636	4	

Sursa : Datamation, June 1981, pag.102.

1. Serial number
2. Firm
3. Position in 1979

4. Output in 1980 (millions of dollars)
5. Increase from previous year (%)
6. Source

The current five-year plan calls for an output in 1985 more than 2 times greater than in 1980. The present relatively advanced equipment of the national economy with computer technology as well as the necessity of self-administration based on the favorable balance of exports and imports on the subsector level require further promotion of export of electronic computers through assimilation of new products with better performances that will make better use of Romanian know-how on the foreign market, accompanied by development of distribution systems for the trade in computing equipment.

Attraction of a Sector That Defies the Crisis

Of course formulation of the export strategy must be based upon analysis of the current characteristics of the international market for computing equipment (1). Production of electronic computing equipment is highly dynamic, and over 90 percent of it is concentrated in the United States, West Europe (France, the FRG and England) and Japan. As indicated by the figures in Table 1, the world market for electronic computing equipment is dominated by the American producers and their branches abroad, among which the IBM firm is outstanding (about 50 percent of the world output). And production in West Europe is also dominated by the branches of the American firms. According to the data published by the journal DATAMATION in 1980, six of the first 10 firms making computing equipment in West Europe were American (Table 2). Japan's output of computing equipment has grown rapidly, its total value doubling every 4-5 years. The main Japanese producers (Hitaki, Toshiba and Fujitsu) are in the first places on the scale of non-American firms in the field of computing equipment.

The production structure of electronic computing equipment is dominated by computers, followed by external memory units, devices for collecting data and teleprocessing, various related equipment, and parts of computers or devices. Production of related equipment shows a pronounced tendency to increase more rapidly than that of the central units. There are differences in the production structures of the big producers. In West Europe office equipment and computers are in a relatively high proportion of the total output, while in Japan and the United States it is related equipment. Specialization also continues on the level of the firms, both in production of central units and related equipment and in production of software.

The field under consideration is also characterized by cooperation in production on the levels of both the firms and the producer countries. In 1980 Japan, the United States, the FRG, England and France concluded an intergovernmental agreement for joint scientific research and production in order to develop computers of advanced generations.

The big producers of computing equipment are making increasingly frequent efforts to standardize and unify sizes and functions, especially for related devices in order to make the interchangeable.

The socialist countries are making similar efforts to improve this output. In the "Uniform Series of Electronic Computers" (RIAD), in which several CEMA countries including Romania are participating, it is planned to expedite design and manufacture of computers of generations 3.5-4 (RIAD 2 and RIAD 3), which are compatible with the IBM systems.

Among the other socialist countries, the People's Republic of China has made major progress in production of electronic computing equipment in the fields of minicomputers, devices for process control, and automations in industry.

In the last few years the developing countries have begun to emphasize development of national industries for electronic computing equipment. Usually under foreign licenses, Brazil, Peru and Argentina have started to make some devices, especially office and pocket computers, minicomputers and some related

equipment. Morocco has developed its computer assembly activities, and some Arab countries are producing related equipment and auxiliary elements. India is producing medium computers of domestic design, and Algeria is oriented toward related equipment.

The world demand for computing equipment shows a steady increase averaging 15 percent a year, determined by intensified automation of production, by more extensive use of computers in economies, in scientific research, and in banking, services and trade, and also by the large volume of military orders.

The main sectors consuming electronic computing equipment throughout the world are industry, consuming about one-third of the total, banking (19 percent), services (16 percent), trade (9 percent) and other sectors (23 percent).

Table 2. Main West European Firms' Output of Electronic Computing Equipment in 1980

Nr. 1 crt.	Firma 2	Tara de origine 3	Produsia (mil. \$) 4	Crestere față de anul precedent (%) 5
1. IBM	S.U.A.	9 902	12	
2. Siemens	R.F.G.	1 505	10	
3. CII-Honeywell Bull	Franța	1 444	23	
4. ICL	Anglia	1 300	13	
5. Olivetti	Italia	876	23	
6. Sperry Univac	S.U.A.	825	11	
7. NCR	S.U.A.	810	27	
8. DEC	S.U.A.	786	39	
9. CDC	S.U.A.	764	34	
10. Burroughs	S.U.A.	734	14	

6 Sursa : Datamation, August 1981.

1. Serial number
2. Firm
3. Country of origin

4. Output (millions of dollars)
5. Increase from previous year (%)
6. Source

In the structure of the world demand for electronic computing equipment, the main part is played by computer systems (52 percent), followed by related equipment (29 percent), office equipment (14 percent), data transmission equipment (3 percent) and computers for private use (2 percent).

Due to the increasing world demand international trade in electronic computing equipment has shown a steady growth, reaching \$13.2 in 1980 (2) or about 22 percent of the total output.

Computer systems and related equipment predominate with a rising trend in the structure of international exchanges. The developed capitalist countries

account for about 97 percent of the exports and 89 percent of the world's imports of electronic computing equipment. The main flows of exchanges are determined by the specialties of the big producers, who are also big consumers of electronic computing equipment. The West European countries import related equipment primarily, Japan imports central units primarily, and a large part of U.S. imports consist of office and pocket computers.

The developing countries account for 3 percent of the world's exports and 10 percent of its imports. The main exporters are the United States (29 percent of world exports in 1980), the FRG (18 percent), England (15 percent), France (12 percent), Italy (8 percent), Japan (6 percent) etc., and their proportions fluctuate considerably from one year to the next.

A recent study indicates that competition on the market for electronic computing equipment will be increasingly keen in the present decade. Various marketing methods are in use to gain new markets under these circumstances, the more important of which are sale of systems (hardware) together with basic and applied programs (software) including training the beneficiary's personnel and providing the necessary service, sale of the applied software (routine or upon request), leasing (between a specialized leasing firm and various beneficiaries), rendering services at cost, deliveries of equipment through subcontracting for computer systems (from producer to producer), rendering engineering services and those for designing data-processing and service systems, and granting patents, production under a license, and know-how.

Improvement of Supply Structure

In view of the necessity of paying for imports of equipment, parts and subassemblies essential to domestic production and of computers with particular technical characteristics not covered by domestic production, export of computing equipment will continue to be one of the major aims of exporting machinery and equipment.

Due to the keen competition on the market as well as the structure of the export products, the gains in export in the 1976-1980 period were in relatively small and sometimes below-plan values although there were annual increases (See Table 3).

As for structure, we note that the great majority of the exports fall into two groups, electronic computers and invoicing machines, confirming both the trend of the foreign demand toward equipment with better performances and the need of new strategies for the other types of products (related and data-collection equipment, memory modules etc.) in regard to structure and methods of supply.

Table 3. Evolution of Romanian Export of Electronic Computing Equipment (in millions of lei in foreign exchange)

	1976	1977	1978	1979	1980
Value	10.2	20.7	37.4	131.8	55.9
Percent	100	203	367	1,292	560

Source: Statistical Yearbook of Romania, Bucharest, 1981.

As for the products, the efforts that can be made will be concentrated mainly upon measures to renovate and diversify the respective output, such as manufacture of the new series of universal computers of an advanced generation, development and diversification of minicomputer production, design and assimilation of data-transmission equipment with which computer networks can be produced, assimilation of off-line data-introduction systems to relieve the systems of most of the operations preliminary to actual processing, development of design activity to supplement electronic computers in complex industrial installations, and development of programs for applications (routine or upon request) needed by beneficiaries on the international market.

A joint effort by specialists in the Electronic Computers Enterprise, the Institute for Computer Technology and the Enterprise for Peripheral Equipment is considered necessary to implement these measures so that the problems encountered will be promptly solved and the constant novelty of the products will be ensured and maintained by close collaboration between production and research.

For purposes of promoting exports, the following are considered the chief measures to be taken to facilitate penetration of the foreign markets by the products of Romanian computer technology: organization of a national center to provide for domestic production of software accompanied by coordination of efforts to design the applied programs, and internal regulation of the obligation of general suppliers of complex installations, in preparing their supplies and in concluding their export contracts, to consider equipping the respective installations with production-management and management systems employing computing equipment manufactured in Romania.

Romania is orienting its production along the most dynamic lines of peak technology in view of the worldwide trends of demand for and production of electronic computing equipment, namely the rather pronounced rise of peripheral equipment to equal importance with the computer systems and polarization, within the latter, of the demand toward large systems and minicomputers, as well as the practically unlimited development of software production. The new components of the family of Felix computers, with a medium-large capacity, offer a double compatibility with both the IBM and the RIAD systems. The Romanian minicomputers (Independent and Coral), built on the basis of advanced technologies, are provided with developed peripheral equipment (rapid printers, modern posting devices etc.) compatible with the most widespread computers in that group, and they are in demand for export to both the socialist countries and the developed capitalist countries.

Production of peripheral equipment is being expanded and diversified alongside improvement of the computers, in order to generalize collection and introduction of data on magnetic supports as well as teleprocessing and to expand the distributed data processing.

The following strategies can be considered for penetrating the foreign markets:

- Negotiation, in the long-term agreements, of specified quotas for Romanian exports to the respective connections;
- A sustained economic propaganda and effective advertising effort on the part of the Romanian general supplier and exporter for both hardware and basic and

applied software, participation in the international trade fairs (especially the SICOB salon in Paris), and organization of specialized exhibits for the benefit of specialists.

- Diversification of marketing methods according to experience on the world market (Coordination of the producer with the consumer requires shortening the channels of distribution of electronic computing equipment by founding mixed marketing companies to cover geographic areas with a dynamic demand and a high economic potential, as well as trade bureaus and computer or service centers).

FOOTNOTES

1. ASE /Academy of Economic Studies/ - ICCM /Research Institute for Machine Building/, "Promotion of Exports of Machinery and Equipment in the 1981-1985 Period," Bucharest, 1981.
2. Cf. BULETIN DE INFORMARE COMERCIALA EXTERNA (BIKI) (in Russian), Supplement No 3, 1981, p 123.

5186
CSO: 2700/297

NUMBER OF CATTLE, PIGS, SHEEP, HORSES, POULTRY

Belgrade EKONOMIK POLJOPRIVREDE in Serbo-Croatian No 4, Apr 82 pp 269-272

[Article by Rade Kravic: "Numbers of Livestock on 15 January 1982"]

[Text] According to the preliminary data of the Federal Institute for Statistics, the numbers of livestock this year in comparison with last year have shown a tendency toward a slight increase. In order to continue the tendency to increase them and to ensure stable livestock production, it is essential to achieve greater production and an income linkage among those involved in production, processing, and trade. It is particularly important to achieve stronger production ties between the social and individual sectors.

According to these data, the total number of cattle, both overall and by farms, at the beginning of this year was 1 percent less than at the beginning of 1981. This reduction was the result of the 1 percent fewer number of cows and pregnant heifers. The situation on socially owned farms was at the level of 1981. There has been a slight increase in the total number of cattle in Bosnia-Hercegovina (about 2 percent), Montenegro (about 2 percent), and Kosovo (about 3 percent), because the number on the farms of individual agricultural producers has increased. In some republics and Vojvodina, there was a noticeable reduction, both overall and in the number of cattle on farms, although there was a slight increase in the number of cattle on socially owned farms. The largest drop, both in the total number of cattle and in the total number of cows and pregnant heifers, was in Macedonia, by about 5 percent, with about 8 percent and 3 percent, respectively, on the socially owned farms, and about 5 percent on the individual farms.

The total number of pigs and the number of pigs on individual farms at the beginning of the year was 7 percent larger, and about 9 percent larger on the socially owned farms. This increase was caused, among other things, by an increase in the total number of sows and pregnant young pigs (about 4 percent), and the number of sows and pregnant young pigs on socially owned farms (about 7 percent) and on individual farms (about 4 percent). The largest increase was in Bosnia-Hercegovina, in the total number of pigs (about 22 percent) and the number of pigs on individual farms (about 26 percent), while there was a slight increase in the rest of the republics and provinces. This trend is the result of an increase in the number of sows and pregnant young pigs in all of the republics and provinces except Montenegro and Slovenia, where there was a noticeable drop.

The total number of sheep and breeding sheep was at the level of the preceding year. There was a slight increase on the socially owned farms, by about 2 percent in the total number and about 4 percent in the number of breeding sheep. The largest increase was in Vojvodina, by about 12 percent in the total number of sheep and somewhat less in the number of breeding sheep, about 3 percent, and Slovenia, by about 8 percent in the total number and the number of breeding sheep, while in the other republics the situation was at the level of the preceding year, except in Bosnia-Hercegovina, Montenegro, and Kosovo, where there was a slight reduction in the total number of sheep and the number of breeding sheep, although in Bosnia-Hercegovina there was an increase in the number of breeding sheep (by about 1 percent).

The total number of poultry has shown a tendency toward a slight increase (by about 3 percent). This is the result of an increase in the number of poultry on socially owned farms (by about 3 percent), but also a considerable reduction in the number of poultry on individual farms (by about 4 percent). The largest drop was in Kosovo, by about 10 percent in the total number of poultry and about 14 percent on the individual farms, and Macedonia, by about 3 percent in the total number of poultry and the number on the individual farms.

This trend in the number of livestock at the beginning of the year, at the level of the preceding year, is, among other things, the result of an increased slaughter of young livestock. Calves, piglets, and lambs are most represented in the structure of the slaughter of livestock, especially on individual farms. A continuation of such a tendency in the slaughter of young livestock will have a significant effect on the normal development of the livestock.

Number of Livestock on 15 January 1982

Region	Total 2	Agricultural organizations (in thousands of head) 3	Farms of individual producers 4			1981 index = 100			Farms of individual producers 7	
			CATTLE -- TOTAL			Agricultural organizations 6				
			Total 5	4,963	99	Total 5	99	99		
Yugoslavia										
Bosnia-Hercegovina	964	27	937	102	87	102	102	102		
Montenegro	186	2	184	102	110	102	102	102		
Croatia	962	182	780	99	104	98	98	98		
Macedonia	371	19	352	95	92	95	95	95		
Slovenia	565	66	499	99	99	100	100	100		
Serbia	2,393	181	2,211	99	98	99	99	99		
Serbia proper	1,658	116	1,541	99	96	99	99	99		
Kosovo	410	5	405	103	109	103	103	103		
Vojvodina	325	60	265	97	100	97	97	97		
COWS AND PREGNANT HEIFERS										
Yugoslavia	3,070	89	2,982	99	100	99	99	99		
Bosnia-Hercegovina	645	8	637	99	93	99	99	99		
Montenegro	121	1	120	104	90	104	104	104		
Croatia	580	12	568	97	106	97	97	97		
Macedonia	149	10	139	95	97	95	95	95		
Slovenia	264	12	253	100	98	100	100	100		
Serbia	1,311	47	1,265	101	101	101	101	101		
Serbia proper	962	23	939	99	100	99	99	99		
Kosovo	219	3	217	108	128	108	108	108		
Vojvodina	130	21	109	102	101	101	101	102		

Region	1981 index = 100					
	Total	Agricultural organizations (in thousands of head)	Farms of individual producers	Total	Agricultural organizations	Farms of individual producers
	2	3	4	5	6	7
PIGS -- TOTAL						
Yugoslavia	8,477	1,669	6,778	107	109	107
Bosnia-Hercegovina	681	90	591	122	100	126
Montenegro	27	7	20	116	113	117
Croatia	1,866	483	1,383	198	108	108
Macedonia	210	92	118	109	109	110
Slovenia	574	189	355	107	113	104
Serbia	5,119	808	4,311	106	110	101
Serbia proper	2,720	215	2,505	106	108	106
Kosovo	59	18	41	106	100	109
Vojvodina	2,340	575	1,765	105	112	103
SOWS AND PREGNANT YOUNG PIGS						
Yugoslavia	1,333	131	1,202	104	107	104
Bosnia-Hercegovina	107	8	99	110	99	111
Montenegro	3	1	2	95	90	97
Croatia	254	32	222	104	121	102
Macedonia	29	10	19	100	96	103
Slovenia	52	16	36	95	95	95
Serbia	888	64	824	104	107	104
Serbia proper	639	13	626	104	94	105
Kosovo	12	2	10	103	108	102
Vojvodina	237	49	188	104	117	102

Region	Total 2	Agricultural organizations (in thousands of head) 3	Farms of individual producers 4	1981 index = 100		
				Total 5	Agricultural organizations 6	Farms of individual producers 7
SHEEP -- TOTAL						
Yugoslavia	7,417	252	7,164	100	102	100
Bosnia-Hercegovina	1,375	12	1,363	99	100	99
Montenegro	482	4	478	98	137	98
Croatia	729	25	704	100	108	100
Macedonia	2,162	165	1,997	102	98	102
Slovenia	16	0	16	108	107	108
Serbia	2,653	46	2,606	105	113	100
Serbia proper	2,004	21	1,983	100	109	99
Kosovo	341	6	334	97	163	98
Vojvodina	308	19	289	112	106	112
BREEDING SHEEP						
Yugoslavia	5,366	182	5,184	100	104	100
Bosnia-Hercegovina	1,019	6	1,013	101	80	101
Montenegro	390	3	387	97	133	97
Croatia	573	19	554	101	102	101
Macedonia	1,466	124	1,341	102	103	102
Slovenia	9	0	9	108	449	107
Serbia	1,910	30	1,880	99	116	99
Serbia proper	1,493	16	1,477	99	125	98
Kosovo	246	3	243	96	110	96
Vojvodina	171	11	160	103	106	103

Region	Total 2	Agricultural organizations (in thousands of head) 3	Farms of individual producers 4	1981 index = 100		
				Total 5	Agricultural organizations 6	Farms of individual producers 7
HORSES -- TOTAL						
Yugoslavia	507	3	504	88	100	88
Bosnia-Hercegovina	134	1	133	84	113	84
Montenegro	24	0	24	93	30	93
Croatia	86	0	86	87	106	87
Macedonia	90	0	89	95	109	95
Slovenia	17	0	17	96	123	95
Serbia	156	1	155	88	82	88
Serbia proper	73	0	73	89	40	89
Kosovo	40	0	40	83	100	83
Vojvodina	43	1	42	90	86	90
POULTRY -- TOTAL						
Yugoslavia	66,398	26,985	39,414	101	105	96
Bosnia-Hercegovina	8,912	3,079	5,883	103	110	110
Montenegro	736	6	730	112	123	112
Croatia	15,648	7,353	8,295	102	107	99
Macedonia	4,775	2,283	2,492	97	97	97
Slovenia	11,248	9,783	1,465	103	104	97
Serbia	25,079	4,480	20,595	99	108	98
Serbia proper	14,119	2,548	11,571	98	100	88
Kosovo	1,896	278	1,618	90	114	86
Vojvodina	9,064	1,654	7,410	103	122	100